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14. ABSTRACT

The substance of this handbook has been carefully selected and compiled from that body of statutory patent law, common law, Patent Office practices and procedures, and defense regulations and policies pertinent to the questions that most frequently arise in the administration of inventions, patents, copyrights, and proprietary technical data. The handbook is not intended to serve as or supersede regulations in any way, but has been compiled primarily from the viewpoint of the Government engineer, scientist or other employee, contract administrator, or contractor, with the express purpose of providing him with a ready reference that will assist in the initiation of prompt and effective action upon that phase or segment of the particular problem as to invention, patent, copyright, or proprietary technical data with which he is dealing. Of particular importance to scientific and technical personnel is the information concerning the proper preparation of engineering notebooks and other research records which may ultimately establish priority of invention.

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RESEARCH AND DEVELOPMENT OF MATERIEL

ENGINEERING DESIGN HANDBOOK

INVENTIONS, PATENTS, AND RELATED MATTERS

HEADQUARTERS, U. S. ARMY MATERIEL COMMAND FEBRUARY 1964

HEADQUARTERS
UNITED STATES ARMY MATERIEL COMMAND
WASHINGTON, D.C. 20315

6 February 1964

***AMCP 706-135,** Inventions, Patents, and Related Matters, forming part of the Army Materiel Command Engineering Design Handbook Series, is published for the information and guidance of all concerned.

(AMCRD)

FOR THE COMMANDER:

SELWYN D. SMITH, JR.
Major General, USA
Chief of Staff

OFFICIAL:

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Colonel, GS
Chief, Administrative Office

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PREFACE

The Engineering Design Handbook of the Army Materiel Command is a coordinated series of handbooks containing basic information and fundamental data useful in the design and development of Army materiel and systems.

The substance of this handbook has been carefully selected and compiled from that body of statutory patent law, common law, Patent Office practices and procedures, and defense regulations and policies pertinent to the questions that most frequently arise in the administration of inventions, patents, copyrights, and proprietary technical data. The handbook is not intended to serve as or supersede regulations in any way, but has been compiled primarily from the viewpoint of the Government engineer, scientist or other employee, contract administrator, or contractor, with the express purpose of providing him with a ready reference that will assist in the initiation of prompt and effective action upon that phase or segment of the particular problem as to invention, patent, copyright, **or** proprietary technical data with which he **is** dealing. Of particular importance to scientific and technical personnel is the information concerning the proper preparation of engineering notebooks and other research records which may ultimately establish priority of invention.

The original edition of this handbook, published by the Army Ordnance Corps, was compiled by Howard **I.** Forman, former Patent Attorney at Frankford Arsenal. The first revision was the result of contributions and valuable suggestions by Patent Attorneys of the Ordnance Corps, now assigned to the Army Materiel Command. These contributions and suggestions were compiled and edited by W. E. Thibodeau and S. J. Rotondi. Further revision and changes have been made in the present edition to make it applicable **for** use by personnel of the Army Materiel Command. The original and revised editions were prepared under direction of the Engineering Handbook Office, Duke University, under contract to the Army Research Office—Durham.

A number **of** specimen forms have been included as Appendixes for the convenience of the user. Many of these forms are subject to replacement by AMC forms, which will govern in applicable cases when published.

Agencies of the Department of Defense, having need **for** Handbooks, may submit requisitions **or** official requests directly to Equipment Manual Field Office (7), Letterkenny Army Depot, Chambersburg. Pennsylvania. Contractors should submit such requisitions or requests to their contracting officers.

Comments and suggestions on this handbook are welcome and should **be** addressed to Army Research Office—Durham, **Box** CM, Duke Station, Durham, North Carolina **27706.**

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CHAPTER 1

GENERAL INFORMATION

I. THE UNITED STATES PATENT SYSTEM

1. The Patent Grant.

The basis for the United States patent system is to be found in Article I, Section 8 of the Constitution, which authorizes the Congress to secure to authors and inventors, for a limited period, the exclusive rights to their respective writings and discoveries. The stated purpose of this provision is to promote the progress of science and useful arts. To implement this constitutional provision and purpose, laws have been passed establishing the United States Patent Office and the Office of Commissioner of Patents,[1] and providing for the granting to patentees or their assignees the right to exclude others from making, using, or selling patented inventions for a period of seventeen years.* The terms of this grant are set forth in a formal document, bearing the seal of the Patent Office, and known as the *Eetters patent*. Over the years, this expression has been shortened to merely *patent*, The patent grant may be viewed as a contract between the Government and the inventor. Incident to this contract, the inventor is given for a limited time exclusive control of intellectual property which he has created, and the right to enforce this control by court action against infringers; in return for this grant he gives to the public at large a full disclosure of his invention, and the right to use the same without charge, forever after the expiration of the limited period.

2. The Patent Document.

The letters patent, as a document, consists of at least three basic parts: the grant, the specification, and the claims. When the invention is of such a nature that it can be illustrated pictorially, drawings are required, adding a fourth part. The specification, and drawings, if any, must be sufficiently detailed and comprehensive that persons skilled in the particular art involved will be enabled to practice the invention disclosed. The claims are numbered consecutively and are located at the end of the patent document, each claim constituting a legal description of a particular embodiment of the invention and a measure of its scope. If one considers a patent to be a form of property, then the claims in a patent are like deeds which recite the particular boundaries of that property which is owned by the patentee and from which he is authorized to exclude all trespassers. Every patent must have at least one claim which has been allowed by the Patent Office after examination of the patent application; failure to obtain allowance of at least one claim will prelude issuance of a patent. The grant, which was discussed in the preceding paragraph, is set forth on the front cover of the patent document, followed by the signature of the Commissioner of Patents and the seal of the Patent Office. The invention is designated in the grant only by its title, reference being made to the specification, which in this sense includes the claims and the drawings, if any.

3. Importance of Patent Rights to the Government.

The Government has acquired full right and title to many thousands of patents, and licenses under many more thousands. In almost every instance the Government has licensed patents which it owns to all comers free of charge. As long as the Government's policy is not to exclude others from using its patent property, it is logical to inquire as to the value of patents to the Government. The

* The United States Patent Office is an office in the Department of Commerce. It is administered by the Commissioner of Patents, who is appointed by the President and operates under the direction of the Secretary of Commerce.

[1] 35 u. S. C. 154.

answer will be found in the fact that since World World I the Government has been subjected to hundreds of administrative claims and to numerous suits in the Court of Claims for patent infringement totalling well over five billion dollars. In a number of instances it developed that the inventions involved in the suits were made by Government employees **or** contractors, but for some reason patent protection for the Government had not been obtained. It is apparent, therefore, that the acquiring of rights in patents, as a protective device, is exceedingly important to the Government. To insure the acquisition of these rights and at the same time to encourage and assist its employees and contractors to obtain patents for their inventions, the Government has established policies and procedures to be followed by its various agencies.

11. DEPARTMENT OF THE ARMY PATENT POLICIES AND PROCEDURES

4. Coordination of Patent Activities.

The Judge Advocate General is charged with the coordination of all Army patent activities. The Patents Division of his office coordinates the activities through the issuance of Army-wide directives and by opinions in specific cases, which, of course, are consistent with the regulations and other directives of the Department of Defense. His office also maintains liaison in patent matters with other Government activities and departments.[2]

5. Rights in Inventions and Patents.

a. Rights in inventions made by officers, warrant officers, enlisted personnel, and civilian employees under the jurisdiction of the Army are governed by Executive Order **10096** (Appendix VIII). Executive Order **10930** (Appendix IX) and administrative orders issued pursuant thereto as discussed in Chapter **3** determine these rights.

b. Rights in inventions made by contractors are governed by the terms of the contract. This is further discussed in paragraphs **40** and **55.**

6. Communications Regarding Inventions and Improvements.

a. Disclosures **of** inventions, including suggestions, ideas, or plans for improvements (made by officers, warrant officers, enlisted personnel, and civilian employees under the jurisdiction of the Army) may be made directly to the head of the Army agency **or** component to which the invention or improvement may relate.[3]

b. Unsolicited invention proposals by persons not under the Army's jurisdiction, received by components of the Army, will be processed in accordance with AR 825-20, as amended.[4]

7. Avoidance and Settlement of Infringement Claims.

Every effort consistent with the requirements of national defense should be made to avoid infringement of privately owned rights in United States letters patent by **or** for the Army. In cases where it is in the interest of the Government to avoid infringement by obtaining necessary rights under patents or applications for patents which are pertinent to contemplated procurement activities, and the desired rights can be obtained at not more than their fair value, proposals to obtain these rights should be processed as set forth in Section IX, Part **15,** of Army Procurement Procedure. However, in any case where such infringement is determined to have occurred, the Army's policy is (a) to settle claims for compensation for past infringement of such rights and (b) to obtain necessary rights with respect to such inventions in the event of contemplated further Army use thereof, where it is in the Government's interest to do so and when such rights can be obtained at not more than fair value.[5]

8. Communications Regarding Infringement Claims.

All communications received by any Army agency or component alleging that a patented or unpatented invention **or** design is being made **or** used by or for the Army in violation of some privately owned right will be transmitted directly to the procuring activity which has ordered the alleged manufacture or use. The procuring activity will then cause the claim to be processed in accordance with Section **IX** of Army Procurement Procedure and the Army Materiel Command **Pro**curement Instruction Section **9-105.50** et seq.[6]

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[2] **Army Regulations (hereafter abbreviated as AR) 825-5, 15 March 1955.**

[3] **AR 825-20, with Changes.**

[4] ***Id.***

[5] **Army Procurement Procedure (hereafter abbreviated as APP) 9-105.50**

[6] **AMCPI 9-105.50—9-105.56.**

111. ARMY MATERIEL COMMAND IMPLEMENTATION OF ARMY PATENT PROGRAM

9. Organization.

The Office of the General Counsel, Army Materiel Command, is responsible for taking appropriate action to determine and protect the Government's rights and interests in all matters pertaining to inventions, patents, and related subjects involving the Army Materiel Command. This responsibility is discharged by the Patent Law Division of the General Counsel's Office, which establishes and promulgates Army Materiel Command policy in such matters, handles problems concerning intellectual property **(for** example, patents, trademarks, copyrights and technical data) for those installations which have no patent counsel, and coordinates the activities of patent staffs throughout the Army Materiel Command.

10. Operation.

A number **of** field activities of the Army Materiel Command are staffed with patent counsel who can furnish advice as to the patent policies and procedures. They should be contacted first, when such advice is needed by officers, enlisted personnel, and employees of such installations, as well as by contractors. Where counsel is not available, advice should be sought directly from the Patent Law Division, Office of the General Counsel (Attention: AMCGC-L). The patent staffs are responsible, at the field activities where they are located, for instituting suitable programs to encourage the making and submission of invention disclosures, appraising them for patentability and military utility, and protecting them as will be described hereafter, particularly in Chapter **2.** In addition, the patent staffs process determinations of the respective rights of the Government and its employees in inventions (Chapter **3),** and coordinate with technical personnel to defend against patent infringement claims (Chapter **4).** This coordination between technical and patent personnel also functions to the end that invention reports by contractors are followed up and duly evaluated.

Field activities presently serviced by patent personnel are: Army Missile Command at Redstone Arsenal, Ala.; Army Tank-Automotive Center at Detroit, Mich.; Army Weapons Command at Rock Island, Ill.; Army Munitions Command at Dover, N. J.; Army Electronics Command at Ft. Monmouth, N. J.; Army Transportation Research Command at Ft. Eustis, Va.; Army Harry Diamond Laboratories at Washington, D. C.; Springfield Armory at Springfield, Mass.; Army Research and Engineering Command at Natick, Mass.; and Army Engineering Research and Development Laboratories at Ft. Belvoir, Va.

CHAPTER 2

PROTECTION OF INVENTIONS

I. OBTAINING A PATENT THROUGH THE ARMY MATERIEL COMMAND

11. Summary and References.

NOTE : The following condensation of material in Chapter 2 is for general guidance and reference purposes only. Paragraph references are made to the sources of additional information. Careful reading of the entire Chapter is recommended.

A. To obtain a patent:

(1) Applicant must be the inventor or discoverer. [12]

(2) Invention or discovery must be new and useful. [12]

(3) Inventor may be required to show

a. Proof of invention [12]

b. Proof of priority (date of conception) [12]

c. Diligence in reducing to practice [12]

d. Novelty or utility of invention or discovery [14]

B. A patent may be issued to cover a new and useful

(1) Process [12, 13]

(2) Machine [12, 13]

(3) Manufacture (Product) [12, 13]

(4) Composition **of** Matter [12, 13]

(5) Improvement of above [12, 13]

(6) Ornamental Design [72, Chapter 6]

(7) Plant [73, Chapter 6]

C. A patent cannot be issued if:

(1) Invention has been patented, publicly used, or described in a printed publication more than one year before application for patent is made. [12]

(2) Invention has been abandoned. [12]

(3) Priority of invention by another is proved. [12]

(4) There is lack of novelty or utility of invention. [14]

D. In preparing specification of patent the inventor (or his agent) should be able to clearly describe the following:

(1) Nature **of** problem which the invention solves. [15]

(2) Status of prior art. [15]

(3) Advantages or results. [15]

(4) How advantages or results are obtained. [15]

(5) The specific ranges or working limits if those factors are critical to the successful operation of the invention. [15]

(6) Preferred embodiment or manner of practicing invention, **by** drawings and/or description. [15]

(7) Permissible variations from preferred method. [15]

E. The inventor should furnish:

(1) If a joint invention, extent and contribution by each inventor. [15]

(2) Recorda **of** conception **and** reduction to practice. [16, 17]

F. To protect the invention, the inventor should:

(1) Keep complete, accurate and up-to-date records throughout the development. [18]

(2) Make entries in an officially authorized bound notebook, including all calculations and preliminary and final sketches. [18]

(3) Date each page, sign and have witnessed. [18]

(4) Prepare, **as** soon as an invention has been made, a Military Invention Record (see Specimen Appendixes II and 111), with a a full disclosure of the invention. [20]

(5) Present Record to assigned authority, (Patent unit of installation or other proper authority) through channels, for determination of merit and value of invention to Government. [21]

(6) Sign formal patent application papers. [26, 27]

G. The Patent Law Division, *Office* of ***the General Counsel, (AMCGC-L) or the Patent Unit in the field installation, through AMCGC-L, will process applications with the Patent Office.*** *[28* to 36]

11. PATENTABILITY OF INVENTIONS

12. Conditions of Patentability.

The Patent Act of 1952 provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.[7]

A person shall be entitled to a patent unless—

(a) the invention was known **or** used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention there**of** by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, **or** canceled it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.[8]

13. Patentable Subject Matter.

As indicated in the preceding paragraph, the statutes provide certain classes of patentable subject matter which may, for convenience of reference, be grouped as follows:[9]

(a) Process

(b) Machine

(c) Manufacture or composition **of** matter

By ***process*** is meant any method which employs physical **or** chemical action to produce a useful result. By ***machine*** is meant a mechanical apparatus which can, by virtue of movable parts which it poses, produce predetermined physical effects when placed into operation. By ***manufacture*** is meant things which are man-made whether by hand or by machine, as distinguished from things of natural growth. By *composition* of ***matter*** is meant a product resulting from the physical inter-mixture **or** chemical reaction of two or more ingredients in which the properties of the product are different from those of the component parts. **A** patentably novel article of manufacture or composition of matter may be produced by a process and/or machine which also may have all the requirements for patentability. Thus, three distinct, patentable inventions may be involved. One test to determine whether more than one invention is involved in such situations is to consider whether the process can be used for making other manufactures or compositions of matter and whether the machine may be employed in other processes. If separate patentable subject matter exists, it should be covered in separate applications.

The Patent Act recited in paragraph **12** indicates that new and useful improvements to a process, machine, manufacture, or composition of matter may be patented. It should be understood that the improvement, to be patentable, must stand the same test of invention (discussed below) as did the thing which it improved.

[7] **Act of July 19, 1952 (66 Stat 797; 35 U. S. C. 101).**

[8] *Ibid.*, **35 U. S. C. 102.**

[9] **Patents may also be granted for inventions of new ornamental designs and for invention or discovery of certain types of plants. The conditions for patentability of such inventions or discoveries are covered by other sections of the Patent Act of 1952 which will be but briefly discussed in this handbook (in paragraphs 72 and 73) because of their minimum applicability to problems affecting the Department of the Army.**

14. Nonpatentable Subject Matter.

In paragraph **12** it was stated that a person shall be entitled to a patent except under certain conditions, listed **as** items (a) to (g) inclusive. But even though these prohibitive conditions do not exist, a patent may not be obtained

> . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the **art** to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."[10]

Numerous **court** decisions attest to the fact that it is difficult to judge whether an alleged invention "would have been obvious'' to one having ordinary skill in the art. Many claims to patentabie inventions have been denied **by** the courts because the subject matter was deemed to meet this test of obviousness and therefore not to rise to the ''dignity'' of patentable invention. Such rejection by the courts has taken many forms and has been expressed in many ways. Following is a list of ''negative rules" based on such judicial expressions, which give **some** indication of novel contributions **or** improvements that ***do not*** amount to invention:

a. Exercise of ordinary mechanical or electrical engineering skill — for example, putting wheels on a machine to make it portable **or** electrifying the treadle of a sewing machine to make its operation "automatic.''

b. Substitution of superior material, which is not in itself new, for a previously employed inferior material — for example, a noncorrosive for **a** corrosive substance.

c. Mere enlargement or diminution — for example, making a boat to full scale from a working model **or** vice versa.

d. Mere change in form produced by mechanical division — for example, making powdered sugar from briquettes **or** ground coffee from beans.

e. Mere changes in form, proportions, degree, **or** arrangement, especially when no new principle **or** functions are involved. (An exception to this **rule is** the case where the difference in degree is considered very exceptional, especially when it involves a long-sought-for result **or** makes possible commercial success after a long history **of** failures.)

f. Unification or multiplication of parts involving no more than the exercise of ordinary mechanical skill — for example, the casting in one piece of an article which was formerly cast in two pieces and put together.

g. Conversion from a manual or hand operation to a mechanical operation if there has been no substantial change in the mechanics or method of making the product — for example, hooking up **an** electric motor to turn such things as a grinding wheel which formerly was turned by hand.

h. Addition of means to make movable a device which otherwise is immovable — for example, putting rollers under an otherwise stationary object or adding roller coasters to a chair.

i. Omission of parts and their attendant functions (as the omission of the ''cowcatcher'' on **a** railroad engine or the omission of a feed roller in a press). unless the omission causes a new mode of operation of the parts retained. (Exceptions to this rule have been made where such omission has led to an unexpected vastly superior result.)

j. Duplication of parts, unless it causes a new mode of operation or produces a **new** unitary result — for example, putting a glass pane in the side of a fare box opposite the driver so that the passengers can see into the box, when the other sides already have such a glass window.

k. Substituting a part for an equivalent part of a machine, process, manufacture, or composition of matter, unless the substituted part not only performs the function of the part for which it was substituted but also performs another function by anothe mode of operation. (Exceptions to this rule have been made in some cases, as where the substitution was deemed to involve a new mode of construction or to develop new uses and properties of the article formed.)

1. Change in proportions of a device or a machine or manufacture, although it may be inventive to change the proportions of the ingredients of a chemical combination or other composition of matter.

m. Application of an old process **or** machine to an analogous subject, with no change in the manner of application and no new result substantially distinct in its nature, even if the new form **or** result has not before been contemplated — for example, the use for locomotives of trucks having a pivotable action about a king-bolt in a manner sim-

[10] Act of July 19, 1952, *Ibid.*, 35 U. S. C. 103.

ilar to trucks employed on freight and passenger cars.

n. Mere aggregation of elements or a mere aggregation of separate results, as distinguished from a true combination wherein the parts cooperate to furnish a new, useful, and unitary result."

15. Determining Existence of Patentable Invention.

The inventor can aid patent personnei considerably if he will keep the following questions in mind while making a literature survey or performing actual research or development, and be prepared to furnish answers to the questions when he makes his invention disclosure:

a. What was the nature and origin of the problem which you sought to solve and which led to your invention?

b. What was the status of the closest prior art before your contribution (citing works and results of others, including patents, other publications, or any pertinent matters of record, if any are known to you)?

c. What advantages or new results, such as increased efficiency and/or economy, better performance, etc., does the invention possess over other developments along the same line, and why are the accomplishments better than those obtainable from the prior art?

d. To what features of the invention (structural details or process steps) are each of the improvements attributable?

e. Are any of the factors responsible €or the improvements, such as dimensions, quantities, time, etc., of a critical nature so that a change in any one of them would lead to an entirely different result? If so, what are the upper ani? lower limits expressed both numerically and functionally?

f. What is the preferred embodiment or way of practicing your invention? (Give sketches, photographs, and precise details of construction and operation, if possible.)

g. Can the preferred embodiment or mode of operation be varied without departing from the spirit and scope of your invention? If so, explain how and state whether the variations are based on theoretical or actual experimental considerations. (In chemical cases, actual tests are usually necessary to support the claims, particularly if the scope of the claims is broad.)

h. Are you a sole inventor, **or** did others contribute to one or more of the novel features of the invention? In the latter case, who were the other contributors, and what was the extent of their contributions?

i. Has the invention been recorded in laboratory or engineering notebooks, memoranda, or progress reports, or described in a printed publication, or put into actual use outside of the place where the original research or development work was done? If so, or if such action is contemplated, identify each instance, giving date and location if possible (furnishing copies of any such material, if available).

One of the most difficult jobs that will confront patent counsel is to determine the exact points of inventive novelty. The inventor can help materially if he can say with certainty which details of the invention cause this or that new result, thereby aiding the attorney to separate the essential from the noninventive supplemental features. At the time that the inventor first discloses his invention, his knowledge of the prior art generally is greater than his patent counsel's, and by fully describing the prior art he can often enable counsel to advise him immediately as to the proposal's patentability and perhaps eliminate the need **of** a preliminary patent novelty search in the Patent Office. In general, it is far better for the inventor to give patent counsel what may later seem to **be** too much data than to err on the side of giving too little. Many features or aspects of an invention may not seem important to the inventor but for patent purposes may prove to be very significant.

111. REQUIREMENTS PRIOR TO PATENT APPLICATION FILING

16. Conception of Invention.

Every invention, to be patentable, must be the product of two acts—conception and reduction to practice. The former is the mental part **of** the inventive act and must involve original thought. This conception or thought must be complete as to the result to **be** accomplished **and** the **ways €or** accomplishing it, although it is not necessary to understand how or why the result is achieved. ***The mere statement of a problem, or the suggestion that a certain result*** *would* ***be desirable, is not in itself***

[11] C. D. Tuska, ***Patents Notes for Engineers,*** **6th Ed., Princeton,** N. J., **1955, Chapter II. (Used by permission.)**

an inventive concept unless it also includes one or more solutions of the problem or describes features which have the novelty and utility necessary for an invention to be patentable.

Since the conception is a mental operation, if it is to be a provable act as required by law it must be disclosed to others who can corroborate the fact. The earliest date of conception, as will be discussed more fully later on, is important in establishing one's right to a patent over that of other claimants. To establish that date in such cases it may become necessary to produce corroborating witnesses to prove that the invention was disclosed to them on a certain date. To make the testimony of the inventor and such witnesses more credible, it is best that the disclosure be fully described in permanent, written form, then signed and dated both by the inventor(s) and corroborating witnesses (at least two, if possible) who have read the description and understand the nature of the invention.

17. Reduction of Invention to Practice.

After an invention is conceived, it must be reduced to practice in order to qualify it for the grant of letters patent. Such reduction can be either of two kinds, ''actual'' or ''constructive.'' By actual reduction is meant the making of a working model or a full-sized machine, or an article of manufacture, or a composition of matter, and the successful testing thereof. When the invention involves a process, it is considered reduced to practice when it is successfully performed as demonstrated by a test of the results achieved. By constructive reduction to practice is meant the filing in the U. S. Patent Office of an application for patent which ultimately proves to be allowable.

There is an urgent need for the earliest possible reduction to practice of an inventive concept. Even though someone may be the first to conceive, he may lose his chances for obtaining a patent to a later inventor who reduces the invention to practice while the earlier inventor, through lack of reasonable diligence, allows his brainchild to lie dormant. *In the eyes of the law the one who was Eater to conceive but first to reduce to practice is considered the first inventor, because his efforts and diligence were directed toward the earliest possible completion of a contribution to the progress of the arts and sciences, for which contribution a patent is granted.*

18. Recording in Laboratory or Engineering Notebooks.[12]

As a matter of good laboratory practice, every step in the performance of an experiment and every test result observed should be reduced to writing. Aside from the benefits which may be derived when patent protection is sought, this practice is important in helping the researcher trace the mechanisms underlying his experimentations and to plan further experiments based on earlier results. In addition such practice will be found in the fact that such records make valuable research data available to other workers in the field when the original experimenter is unable to carry on with his work.

Once the laboratory worker or engineer is convinced of the importance of keeping complete, accurate, and up-to-date records of his work from the "scientific" point of view, it may be a simple matter to convince him to do it in a way which will simultaneously make the records useful for patent purposes. By this is meant the keeping of records which will provide evidence acceptable to courts of law in the event that a legal contest should arise over such questions as whether and when an invention was made and who is entitled to be granted a patent or who is the first inventor. If records are to be kept at all, it is just as easy to do it the ''right'' way and thereby safeguard any invention and patent rights, as it is to do it any other way. Following are some of the major "do's'' and ''don't's'' in mantaining research records.

DO

Entries will be made in an officially authorized bound notebook. Entries will be made in ink.

All data, including detail figuring and preliminary information, should be entered in the notebook.

The entries preferably should include a title, project number, or subject in each case. If less than a full page is used for an entry, the user should sign his name and the full date at the end of the entry, or a line should be drawn across the sheet below the last entry and a diagonal line drawn across the blank portion. If the latter procedure is employed, the signature and date should be placed at the bottom of the page.

All entries should be reviewed by two witnesses who understand the subject matter, and they should

[12] AR 70-12, 5 March 1957.

sign their names and note the date adjacent to the signature of the person who made the entry. If the reviewers also witness the signature of the person who records the data, they should sign their names following a legend reading, ''Witnessed and Understood by. . . .'' If the review is made after the date of the recorder's signature, the reviewers should sign following a legend reading, "Read and Understood by . . ." as shown on the sample page in Appendix I.

Whether a book is used for one or a number of projects, the data should be entered chronologically and consecutively. If the book is used for a number of different projects, use a new page for each one, starting with the very next page after the last one containing any data. Continuations of the data for each project can be identified by cross references to the last page containing an entry for the particular project. When the book is so used, it is best to employ the diagonally ruled line across any blank portion and to sign and date each page at the bottom.

Where drawings or other data such as graphs, photographs, etc., are prepared on separate pages and arc deemed a necessary part of the notes, they should be properly signed and dated and pasted in the book.

It is advisable to maintain an index of the different subject matters and/or projects in the front of the book.

If the work recorded in the book has a security classification, the pages bearing such data should have clearly indicated thereon the appropriate classification. In addition, the front cover of the book should bear indication of the highest classification of data contained in the book. In such cases, the book must be safeguarded in accordance with existing security regulations of the Department of the Army.[13]

DON'T

Don't erase errors. They should be crossed off and the correction made adjacent to or following the wrong entry. Erasures tend to lessen or destroy the credibility of a notebook as evidence.

If the person making an entry signs at the end of it or at the bottom of the page (after ruling out by a diagonal line any intervening blank space), no entries thereafter should be made above the signature on that page. If an afterthought arises or an error is detected in an earlier entry, a new entry separately signed, dated, and witnessed should be made.

Don't leave blank spaces or pages between entries.

Don't keep rough notes on separate pieces of paper or in ''unofficial'' notebooks with the object of later transferring them to the "official" notebook. This practice would vitiate any value that the notebook might possibly have as evidence.

Don't postpone entering data in the notebook. Postponements may lead to errors as the recollection grows dimmer with time, and the practice may lead to the discrediting of the data in the notebook so that it may not be considered to be valid as legal evidence.

19. Determination of Inventorship.

Patents may lawfully be granted only to the first and original inventors or to their lawful assignees or representatives. It is important, therefore, that the applicant for a patent be the actual inventor of the subject matter as defined in the claims of the patent application.

In large organizations, where a number of people may participate in the origination and working out of new ideas, it is sometimes difficult to determine who is the true inventor. In making this determination it is well to keep in mind that invention consists of the acts of conception and reduction to practice, as explained in paragraphs 16-17. In determining inventorship it is not necessary that the person who conceived the invention be the one who actually reduces it to practice. It is sufficient if he makes a disclosure which is sufficiently clear and complete to warrant preparation of a patent application, since this would amount to constructive seduction to practice.

The person who conceives an invention may instruct others how to reduce it to actual practice, but these others would not by that act alone be inventors or joint inventors. To establish a true case of joint inventorship it is necessary that all persons jointly shall be responsible for the invention claim.

In determining whether invention is a sole or joint act the primary problem is to determine what is the real, patentable invention that is to be claimed. Such a determination often will narrow the field or eliminate possible claimants who believed themselves to be the inventors because of

[13] AR *380-5, Military Security.*

work done or contributions made to the solution of a particular problem. It is important that care be exercised in determining the true inventors whose names are to appear as applicants for patents, as patents can be invalidated if they later are proved to have been issued to persons other than the actual inventors of the claimed subject matter. Of course, no matter how careful one is at the time when an application is prepared, it may be that the true inventors are not named, and this fact may come to light after the case has been filed in the Patent Office. In that event, it may prove to be wise to withdraw the name of one or more of the inventors originally listed as coapplicants. This removal has no bearing upon the value of the contribution made by the one whose name is removed, or upon his veracity. It may be, for example, that the person's contribution was clear but later events indicated that it was not a patentably new contribution and so could not be claimed as such. It is also possible to add the names of one or more inventors during the pendency of the application.

20. Military Invention Record.

When a potentially patentable invention is believed to have been made and the question of inventorship determined, at least preliminarily, it is desirable to make a record of all the pertinent facts. For this purpose all Army Materiel Command personnel and contractors should use a form which is intended to adduce information essentially coextensive with that illustrated by the sample form, entitled "Military Invention Record,'' to be found as Appendix IVA. Instructions for preparation will be found on the reverse side, reproduced as Appendix IVB. Copies of this form may be obtained from the Patent Law Division, Office of the General Counsel, Attention : AMCGC-L, or from Procurement Districts, Arsenals, and other field installations.

The data called for in the Military Invention Record should be supplied as accurately as possible. A suggested form of Patent Disclosure Data Sheet is reproduced as Appendix IVC. It should be attached to the Military Invention Record. Importance of the Record lies in the fact that it may prove to be the best available record of priority of conception and/or reduction to practice, if the invention ever becomes involved in a Patent Office interference proceeding. Although this most technical action will be discussed more fully later, this much may be stated at this point. An interference is a proceeding in the United States Patent Office for determining priority as between two or more inventors claiming the same invention. It will be of the utmost urgency, thereafter, to provide the earliest possible complete records of the original conception and development of the invention.

21. Evaluating the Invention.

With the basic disclosure data made a part of the invention record, the next step iiormally is to determine whether the purported invention merits coverage by a patent application prepared and filed at Government expense. Inventions originating within an Army Materiel Command establishment generally are reviewed by both technical personnel and patent counsel to determine the potential value of the invention proposal to the Army and to the Defense Department. If the item is one which may be produced in large quantities or for which other extensive use is foreseen, patent protection should be sought to lessen the possibility of others patenting the same thing and then charging the Government a royalty for its use. However, if the invention is a single-purpose item, such as a very specialized laboratory tool, it is inadvisable to apply for patent, particularly if a number of equivalent prior-art ways of satisfactorily accomplishing the same result are possible. In any event final decision as to whether the filing of a patent application is warranted rests with patent counsel who will take into consideration use to the Government, the extent of such use, patentability and other circumstances which may dictate such filing.

Inventions made by contractors under a Government-funded contract may be covered by patent application, prepared at their election and at their own expense pursuant to appropriate contract clauses. Inventions for which contractors elect not to file are reviewed by cognizant technical personnel and patent counsel to determine whether filing should be undertaken at Government expense.'*

22. Prior-Art Search.

It is generally desirable to search the prior art before filing the application to determine whether the invention has been anticipated. The comparatively brief time and cost of such a search will save

[14] **Armed. Services Procurement Regulation (hereafter abbreviated as ASPR) 9-107.2b.**

the Government many times the investment involved in comparison with the expense of preparing and prosecuting a patent application. A prior-art or novelty search is best conducted by expert patent personnel, who make a comprehensive examination of the domestic and foreign patents and other technical literature in the Public Search Room in the Patent Office, often checking their findings with Patent Office Examiners specializing in the field being searehed. Even if the purported invention is not found to have been partially or entirely anticipated, collateral data is often found which will assist in the preparation and prosecution of the patent application.

IV. PREPARATION OF APPLICATION FOR PATENT

23. The Specification.

By law, as well as by Patent Office rule, the specification must contain a description of the invention or discovery and of the manner and process of making, constructing, or compounding it. This description is required to be stated in full, clear, concise, and exact terms so as to enable any person skilled in the particular art or science involved to practice the invention. Although patent solicitors vary as to the format which they employ in preparing the specification, certain items are always included because Patent Office so requires. Following is an outline of a patent specification which is "typical," at least as to the form and content:

a. Title — which should indicate the nature of the invention, insofar as possible.

b. Preamble — generally one or two sentences setting forth the nature of the invention and, broadly, the field of the particular art to which it appertains.

c. Description of prior art—sufficient to point up the problem which the present invention is claimed to have solved.

d. Objects of invention—stated broadly, followed by more specific terms.

e. Brief summary of invention—stated so as to be consistent with the objects of the invention just recited and with the claims which will follow later.

f. Description of drawings — each of the figures of the drawings is briefly described to lay the ground for further reference to them later.

g. Description of invention—should set forth at least one specific embodiment of the invention, whether it be a new or improved machine, manufacture, process, or composition of matter. This description should refer by the use of reference characters (preferably numerical) to the drawings, if any, and should be complete in all respects, furnishing as much detail as is necessary for persons skilled in the art to understand and practice the invention.

h. Mode of operation — if applicable, should be explained either as a part of the description of invention or immediately thereafter.

i. Alternate modifications or embodiments — equivalent structures or forms of the invention which have been tried or can be contemplated should be described (and illustrated in the drawings) and their mode of operation explained, if not obvious from the description of the preferred embodiment.

j. Recapitulation — summarizing the objects of the invention and indicating that each one has been achieved, or how each has been accomplished.

24. The Drawings

When the nature of the case warrants illustration, one or more sheets of drawings must accompany the application for patent. The test is: "Can it be illustrated?'' rather than "Should it be illustrated?" The drawings must show every feature of the invention specified in the claims. The drawings, specification, and claims must be commensurate in scope. Whenever necessary for a clear understanding, the invention may be shown in one or two views associated with just enough of the prior-art structure to show the invention in connection with it. Otherwise, the illustrations must be confined to the novel improvements claimed.

The Patent Office, in its official *Rules* of Practice, has laid down strict requirements for the drawings. They must be on special paper of a uniform size and composition. The views must be placed in certain specified ways and made with India ink, cross-hatched, shaded, and numbered, all in accordance with definite standards of form and workmanship.

25. The Claims.

One or more claims must be included in the application immediately following the specification. As many claims may be included as are required to cover the various aspects of the inventions, so

long as they are distinct from each other and are not unduly multiplied so as to become confusing. Each claim may be considered to be a legal definition of one form of the invention described in the specification. As each claim stands on its own when allowed and published as part of an issued patent, the effect is the same as if each claim were a separate patent grant. No patent will be issued unless at least one claim is found to be allowable — that is, found to define patentable subject matter.

The drafting of claims is a highly specialized field which requires the skill and ingenuity of an experienced and proficient patent solicitor. The claims define the metes and bounds of the intangible personal property represented by the invention, in much the same way that deeds bound real property. As in the case of the law of real and personal property, there is a vast body of case law behind the development of the requirements for a patent claim, and an array of textbooks have been written on this subject alone. Hence, no comprehensive discussion of it can be entered into here for obvious reasons of space limitations.

26. The Oath, Power of Attorney, Grant, and Petition.

Every application for patent is required by statute to conclude with an oath, subscribed before a notary public or other suitable official who is authorized to administer oaths, stating that the deponent is the applicant for patent on the invention described in the foregoing specification and claims. In addition, the oath must declare that the applicant believes that he is the first inventor thereof, that it was not described in a written publication or placed in public use more than one year prior to the date of filing in the Patent Office, etc., thus confronting with the statutory requirements for a patent grant described in paragraph 12.

As the application is filed and prosecuted by Army Materiel Command patent attorneys or agents, it is necessary that an appropriate power of attorney, signed by the applicant, be filed with the application. This power, which is required to be irrevocable, is generally made out in favor of the Secretary of the Army, who appoints as attorneys the Chief of the Patent Law Division, Office of the General Counsel, Army Materiel Command, the head of the patent-soliciting section of that division and other attorneys as necessary. Where the application is prepared by one of the field offices, the name of that person who heads the patent unit of the respective field office, or, at his election, the attorney preparing the case may also be added.

Every application for patent filed by the Government on behalf of an employee must include a statement, signed by the applicant, declaring that the invention may be used by or for the Government without payment to him of any royalty. This is called the grant, and is a prerequisite to the filing of a patent application by the Government without payment of Patent Office fees (under the Act of March 3, 1883, as amended, 35 U. S. C. 266). A certification by the Secretary of the Army, to the effect that the invention is used or likely to be used in the public interest, must also accompany the application.

The petition, which also must accompany every application, is addressed to the Commissioner of Patents and requests the grant of a patent. The residence and post 'office address of the petitioner must appear if not stated elsewhere in the application. It need not be separately signed when part of or attached to the specification and oath; otherwise, it must be signed by the petitioner.

Although the oath, power of attorney, grant, and petition may be on separate papers, each requiring the inventor's signature, the current approved practice provides for combining them in a form with a single signature. Two specimen forms for use of sole and joint inventors are illustrated in Appendixes VA and VB, respectively.

27. The Instrument of Title.

The invention covered by every application for patent prepared and filed by Army Materiel Command must be either assigned or irrevocably licensed royalty-free to the Government. Whether an invention made by a Government employee is to be licensed or assigned is a matter to be determined by an administrative process which will be discussed later. Inventions of Government contractors are governed by the terms of the contract, insofar as the disposition of the rights thereto is concerned. Whatever the case may be, the appropriate instrument of title, a license or an assignment, must be executed by the inventor and is usually recorded in the Patent Office. The title documents need not be notarized but should be suitably witnessed. In this way the Government's rights to the invention in question am protected against the possibility that the prospective patentee might convey to third

parties all the rights to his invention. Appendixes VIA and VIB show license and assignment forms illustrative of the type used with applications filed on behalf of Army Materiel Command employees. Appendixes VIIA, VIIB and VIIC show examples of license and assignment forms used with patent applications for inventions arising out of Government contracts. It will be noted that in the latter two forms the terms must be tailored to the terms of the clauses in the particular contract.

V. PROSECUTION OF APPLICATION FOR PATERT

28. Filing in the U. S. Patent Office.

If prepared in the field, the completed patent application, together with the executed forms, is forwarded to the Patent Law Division, Office of the General Counsel, Attention : AMCGC-L. Pursuant to requirements of law, arrangements are made by that Office to obtain from the Secretary of the Army or his designee a certification to the Commissioner of Patents stating that the invention covered by the application is used or likely to be used in the public interest. The application, together with the oath, power of attorney, grant, petition, and the Secretary's certificate, is delivered to the Patent Ofice, which records the case, gives it a serial number, and sends a receipt with the number back to the Office of the General Counsel. Thereafter, all correspondence with the Patent Office in connection with that case must refer to it by its title, serial number, and date of filing, as well as the name of the inventor. The license or assignment is recorded separately in the Patent Office in a special register of Government interests in patents and patent applications.

29. Patent Office Action on Application.

When the Patent Office receives the application, it determines which one of its examining divisions should handle the case and assigns the case there for examination. The Examiner to whom it is charged reviews it to determine whether it is in proper. form, whether patentable subject matter is involved, and whether it is properly described and claimed. If so, he searches the prior art, which is available to him in the form of a most comprehensively classified and catalogued collection of United States and foreign patents, publications, and other forms of references pertinent to the particular subject matter involved. He then sends a letter to the applicant's attorneys in which he cites any irregularities of form which he believes to exist in the application and, with reference to the merits of the case, cites the prior art which he believes to most nearly anticipate some or all of the claims of the application. This letter is known as an *office action*. The claims are dealt with individually, being either rejected or allowed. In the first action it is not uncommon for all claims to be rejected.

30. Response to Office Action,

Generally, the applicant for his attorney) has six months, from the date the office action was mailed, within which to answer the Examiner's objections to the specification, drawings, etc., and his rejection of the claims. In special instances the Examiner may set a shorter period for response, depending on the circumstances, in order not to delay the prosecution unnecessarily. Failure to respond to the office action within the six months, or the shorter time specified, will automatically result in abandonment of the application, and it can be revived or reactivated thereafter only on the granting of a special petition addressed to the Commissioner of Patents.

The response to the office action is termed an *amendment,* and in it the applicant may request that the Examiner make certain changes in the specification and/or drawings and/or claims if he believes that such changes are necessary and proper to overcome objections raised by the Examiner. In addition to or in lieu of such changes, argument under the caption "Remarks" is generally made with the object of pointing out to the Examiner the error of his holdings, or of showing how the requested changes will alter the basis for the Examiner's criticisms and perhaps eliminate the objections to allowance of the claims. In preparing these remarks, the attorney often finds it expedient to rely upon the inventor for technical guidance, as the latter generally is in a good position to perceive some flaw in the Examiner's arguments on the technical substance of the invention or in the references cited against it.

The applicant is entitled, as a matter of right, to receive two office actions on each application filed in the Patent Office. Thereafter, any further actions by the Examiner, with the way left open for a response by the applicant, are entirely discretionary with the Examiner handling the case (sub-

ject to his superior who is called the Primary Examiner). As long as the applicant exhibits a distinct effort to advance prosecution of his case to a final conclusion, and providing that there remain genuine issues which have not been twice considered by the Examiner, the applicant will be given an opportunity for more than two responses. Amendments in cases average three in number. The average pendency for unclassified cases is about three years, although in recent years the Patent Office has been constantly exploring ways to reduce this period. When the case is classified the pendency may be increased to five or more years.

31. Final Rejection.

When the Examiner is of the opinion that the merits of a case have been fully explored, he will advise the applicant to prepare for a *final action.* This expression means that, unless ail remaining claims are found to be in allowable condition as a result of the succeeding response by the applicant, the office action which follows thereafter will be final. In standard terminology this is referred to as a *final rejection.*

Upon the receipt of a final rejection, the applicant generally has these choices: He may, if any of the claims have been allowed, cancel all rejected claims and make any changes of form in the specification or drawings which have been required by the Examiner, which will result in issuance of the patent in the form as thus revised; or he may argue, with or without amending the claims, specification, or drawings, in an effort to convince the Examiner to allow the remaining claims and pass the application as it stands. However, even though the Examiner may be constrained to withdraw his rejection in part at this stage of the prosecution, the patent cannot be issued as long as one claim remains rejected, and in fact an amendment which does not lead to allowance of all claims will not even be entered on the record (except, upon a specific request, for the express purpose of putting the application in better condition for appeal). This means that the applicant must make the concession of cancelling all remaining rejected claims, or else must present an appeal to the Patent Office Board of Appeals to reverse the Examiner's decision.

32. Interview With Patent Office Examiner.

Occasionally, the attorney prosecuting the application will conclude, from the nature of the comments set forth in an office action, that the Examiner has failed to grasp certain arguments presented by amendment and that only by explaining the pertinent points in person can he hope to get the Examiner to reverse his position. This may occur at any time during the prosecution, but in most cases the attorney is content to continue to try to persuade the Examiner by written explanations, changes to the application, and arguments on the record, until a final rejection has been imposed. It is usually at this time that personal interviews with the Examiner are sought, since the applicant is under the added pressure of need to obtain a meeting of minds with the Examiner before the expiration of the period allowed for response or else to go to appeal without fully clarified issues, or to accept abandonment of the application.

The Examiners are usually receptive to such interviews when the privilege is not abused, and generally are most cooperative in discussing the reasons for their position and, after hearing the applicant's views, in suggesting ways and means of putting an application in condition for allowance. The attorney prosecuting the application may decide to have the inventor(s) present at the interview in order to explain complicated technical points of the invention and to answer questions on the technology involved, particularly where these questions are raised for the first time at the interview.

VI. EXCEPTIONAL PROCEEDINGS WHICH MAY ARISE DURING PROSECUTION

33. Petitions to the Commissioner.

In very rare instances petitions to the Commissioner will be entertained, and in rarer instances still will they be approved by him. These petitions relate to matters of form and practice as distinguished from questions relating to the merits of the invention. An example of an instance where a petition will be considered is a situation where it is desired to revive a case which has been abandoned for failure to amend within the allotted period. In this instance, a verified showing must be made to establish that the failure to amend was due to inadvertence or cause beyond the control of the applicant or his attorney. Another example is a situation where the Examiner has set a shortened period for response to an office action and has refused to

increase it (to some period up to the statutory maximum of six months) upon the applicant's plea that more time is required.

34. Appeals from Final Rejections.

As mentioned in paragraph 31, if even one claim remains disallowed in a final rejection and if the Examiner cannot be persuaded to allow the claim either as it is or in some amended form, recourse may be had to the Patent Office Board of Appeals. In making this appeal, which must be submitted before the expiration of the six-month period for response to the final rejection, the applicant must identify the rejected claim or claims appealed. Thereafter, within a prescribed period of time (60 days from the date of the appeal or within the time allowed for response to the action appealed from if such time is later) there must be submitted a brief on appeal on behalf of the applicant, in which the legal and technical arguments for overruling the action of the Examiner are presented to the Board. The brief is reviewed by the Examiner before it goes to the Board, and he may at that time decide, in view of the further explanations in the brief, to reverse his former position. In that case he could reopen the proceedings before him (a relatively rare occurrence) or allow the claims and pass the application to issue. Another possibility is that the Examiner will find it desirable to reply to the arguments in the brief so as to give the Board the benefit of his views on anything stated by the applicant which the Examiner feels to require his comments and which is not already a matter of record in the case, The applicant can, if he wishes, file a response to the Examiner's reply for consideration by the Board and also is entitled to present arguments orally before the Board. In the actual hearing before the Board, the Examiner takes no part.

The Board which reviews an appeal consists of a panel of three members, invariably former Patent Office Primary Examiners, who are appointed to their posts by the President. They will decide the case on the record, and on written request they will also hear the applicant's (or his attorney's) oral argument, for which a maximum time of thirty minutes is allotted except in special cases wherein the Board may approve requests, made in advance, for an extended period of time. Whether or not an oral argument is made, the Board, after due deliberation, will issue a written opinion sustaining or overruling the Examiner's decision, in whole or in part, Thereafter, except for an occasional petition for reconsideration presented to the Board, the next action is for the applicant to take the appropriate steps to revise his his application if the Board's decision so indicates, or if the Examiner is entirely overruled, then he must act to complete the case prosecution. Either action will lead to issuance of the patent applied for unless no claim has been allowed, either by the Examiner prior to the appeal to the Board or by the Board.

Failure to obtain allowance of one or more claims appealed to the Board leaves the applicant with the option of accepting the verdict as to the claim or claims involved or of appealing it to the Court of Customs and Patent Appeals or the U. S. District Court for the District of Columbia. An appeal to the former Court is based upon the record before the Patent Office; an appeal to the later Court may be a *de novo* action — that is, it may be argued in its entirety on all issues involved, not just on the issues acted on by the Board of Appeals. Upon taking an appeal to either of the Courts, the applicant is thereby precluded from subsequently presenting an appeal to the other.

35. Interference Proceedings.

The Patent Office Rules of Practice have defined an interference as "a proceeding instituted for the purpose of determining the question of priority of invention between two or more parties claiming substantially the same patentable invention." The reason for such a proceeding is that under the law the Patent Office cannot knowingly issue two valid patents for the same invention.

The procedure for settling an interference is the most technical and complicated phase of Patent Office practice; it is carried out before a judicial-like tribunal known as the Board of Interference Examiners. An interference generally results from a search which the Examiner in charge of an application is required to make when an application is ready to be passed to issue, the object being to determine whether there are any copending applications for the same invention in which claims are being made or could be made that are similar in scope to those found allowable in the application which is ready for issue. However, an interference may be set up at any time after common allowable subject matter is found in two or more applications

Interferences generally are declared between two or more applications. However, under certain conditions, an interference will be declared between a pending application and an issued patent. In the latter situation, if the pending application prevails over the issued patent, the Patent Office may issue a patent on the pending application. The Office cannot nullify the previously issued patent or any of the claims which, as a result of the interference action, have been adjudged to be the rightful property of the pending applicant. Only the Federal District Courts have jurisdiction to declare an issued patent void, and the procedure which should be followed is for one of the patentees to petition the Court to declare the other's patent invalid.

The interference proceeding is instituted by the Interference Division of the Patent Office, calling upon the applicants involved to submit preliminary statements in support of their case. The statement generally consists of a 'recitation of dates of conception and reduction to practice of the invention, and of events in support thereof. The dates need not be the earliest ones, but they should be those which the applicants desire to disclose or, perhaps, believe they are most likely to be able to prove. It is at this point that the corroborative records mentioned above (the Military Invention Record, data entered in laboratory or engineering notebooks, etc.) are needed by the attorney to frame the proper statements and plan his case. These data will be of paramount importance in the contest to establish prior inventorship and therefore rights to a patent. Following a very painstaking and somewhat complicated proeedure, including the presentation of appropriate motions to the Board and the taking of depositions, arguments based on the evidence and testimony may be presented by counsel on behalf of the opposing litigants. The testimony which is presented may be supplied by the parties to the interference action and/or their witnesses and/or alleged experts in the field, with provision made for direet and cross-examinations.

36. Interference Settlements.

Not every interference proceeding is carried through to the point where the Board of Interference Examiners hands down a decision on priority. As a rule, all sides in an interference are hopeful that the question of priority can be settled at a very early stage, possibly by previously unknown facts being made known to one or more of the opponents so as to convince him (or them) that further opposition would be futile. When this does not occur, it is often possible that a settlement by agreement of the opposing parties can be reached with some degree of advantage to all concerned. Such a settlement may appear desirable, for example, when the evidence presented early in the proceedings indicates that one side may prevail as to certain of the claims and the other side has an advantage as to other claims. In such cases, the parties may decide that a cross-licensing arrangement, whereby each would grant the other free rights to use his claims, would constitute a suitable compromise. Settlements of this type may save all concerned a considerable amount of time and expense.

CHAPTER 3

INVENTION AWARDS AND REWARDS

1. DETERMINATION OF RIGHTS TO INVENTION

37. Executive Order 10096.

On January 23, 1950, the President issued Executive Order 10096, "Providing for a Uniform Patent Policy for the Government With Respect to Inventions Made by Government Employees and for the Administration of Such Policy," a copy of which is to be found as Appendix VIII. Pursuant to this Order, procedures originally were established for determining relative rights, as between the Government and the employee, by the Government Patents Board. By Executive Order issued 24 March 1961, the Government Patents Board was abolished, and responsibility for these decisions now rests with the Department of Commerce.[15] Pursuant to this Order the Secretary of Commerce has created a Government Patents Branch in the Patents Office to make these determinations based on criteria found in Executive Order 10096.

38. Basis for Making Determination.

Paragraph 1 (a) of Executive Order 10096 states that the basic policy with respect to inventions made by Government employees is that the "Government *shall* (italics added) obtain the entire right, title, and interest in and to all inventions" made by such employees during working hours or with other material contributions By the Government or which bear a direct relation to their official duties. In paragraphs 1(b), (c), and (d) of the Order, conditions *are* broadly spelled *out* whereby, notwithstanding the mandate above quoted, the Government might find it more equitable to take only a royalty-free license. Because of this, the first Chairman of the Government Patents Board interpreted the word "shall" in the above quotation to mean "may," thereby setting a precedent for his successors in office.

Paragraphs 1(b) and (c) of the Order stipulate that it is a rebuttable presumption that inventions made by Government employees assigned to invent, perform research or development work, or supervise such work must be assigned to the Government, and it is likewise presumed that if none of these conditions exist, or if the Government has insufficient interest in an invention, the inventions need not be so assigned.

39. Procedure for Making Determination.

Department of the Army publications set forth most of the pertinent procedural rules whereby the ownership rights in inventions of Army civilian and military personnel are evaluated. In essence, the procedures call €or the employing agency to make a recommendation regarding the relative rights of the Government and the inventor. The recommendation is presented on forms[16] which may be obtained from patent counsel. These forms are forwarded by the Army Materiel Command to the Patents Division, Office of the Judge Advocate General (OJAG) €or review and processing to the Government Patents Branch of the Patents Office for ultimate decision.

40. Rights of Contractors.

The rights of the Government and of its contractors i~ inventions which employees of the latter make in the performance of a Government contract are governed by the pertinent provisions of the contract. Standard patent clauses set forth in Section IX of ASPR will be discussed further in paragraph 55.

[15] Executive Order 10930, 24 March 1961. (See Appendix IX.)

[16] DAS Forms 21 and 22. (See Appendixes X and XI.)

II. GOVERNMENT EMPLOYEES' INCENTIVE AWARDS

41. Incentive Awards Program.

The Department of the Army Incentive Awards Program, spelled out in AR **672-301,** provides for the payment of $50 for invention disclosures received by patent counsel after the effective date of 3 March **1958,** and deemed acceptable for filing in the Patent Office. An additional award of $100 is made when the patent is ready for issue. Employees may be eligible for further awards based on tangible savings, under the terms of the directive, for use of the inventions by the Government.

42. Eligibility Requirements.

The details of eligibility for an award under the Army's Incentive Awards Program are spelled out in AR 672-301. In brief, all civilian personnel and employees paid from appropriated funds are eligible. Employees of nonappropriated fund activities are not eligible for cash awards but are eligible for honorary awards.

43. Procedural Requirements.

The procedures which must be followed in order to make an award to an employee for some useful contribution, or to reward him for superior accomplishment, are explained at some length in AR **672-301.** Implementation of the Army's Incentive Awards Program in the Army Materiel Command is accomplished at each establishment in accordance with directives of the particular command which seem most appropriate for the installation involved.

44. Rewarding the Inventor.

Although the Incentive Awards Program was not designed exclusively to reward employees who make patentable inventions, it can at least be used for that purpose and thereby aid in stimulating further inventive contributions. This fact should not be overlooked by supervisors, particularly those in areas where employees are given specific research and development assignments and thus, under Executive Order **10096,** generally are required to assign to the Government all rights to any inventions they may make.

CHAPTER 4

INFRINGEMENT

45, General.

The word "infringement," in a general sense, is applicable not only to the unlicensed making, using or selling of a patented invention, but also to the misuse of any other proprietary right; and, therefore, this Chapter will deal with the Government's position in the entire field of privately held proprietary rights.

46. **Definitions.**

In general usage much variation is encountered in the meanings of terms in the field of proprietary rights. However, for the purposes of Government administration two of the key terms are defined as follows:

> ***a. Proprietary Rights.*** Proprietary rights refers to those personal property or other rights subsisting in the product of an originator's mental effort which may be established by statute, common law, or agreement, and includes, but is not limited to, rights in inventions and/or designs, either patented or unpatented; trade secrets and 'know how,' comprising technical data in the form of reports, drawings, blueprints, data, and technical information (designs, processes and manufacturing data under 10 U. S. C. 2386); and material subject to copyright, such as the literary and artistic work of authors or proprietors.
>
> ***b. Proprietary Data*** . . . data providing information concerning the details of a contractor's secrets of manufacture, such as may be contained in but not limited to its manufacturing methods or processes, treatment and chemical composition of materials, plant layout and tooling, to the extent-that such information is not readily disclosed by inspection or analysis of the product itself and to the extent that the contractor has protected such information from unrestricted use by others.[17]

[17] ASPR 9-201(b).

47, Policies Relating to the Use of Proprietary Material.

a. Patented Inventions. ASPR leaves the administrative settlement of patent infringement claims and the acquisition of patent rights to the several Departments, and APP 9-105(a) provides as follows:

> (a) ***Policy.*** In order to maintain the goodwill of industry, and to encourage invention and the development of scientific arts related to national defense, it is the policy of the Department of the Army to avoid, whenever practicable, the infringement of privately owned rights in inventions and copyrighted works. For this reason, necessary rights with respect to such inventions and copyrighted works should be acquired in accordance with contemplated procurement, where it is in the Government's interest to do so and when such rights can be obtained at a fair value. When infringement of such rights does occur, it is the policy of the Department to take all necessary steps to investigate, and, if appropriate, settle or otherwise dispose of claims of infringement asserted against the Department,

This stated policy may be interpreted to mean that ***unnecessary*** infringement should be avoided. In certain cases it may be in the best interest of the Government to infringe a patent, and statutory basis for this may be found in 28 U. S. C. 1498, discussed hereinafter.

Policy on infringement is further controlled by the attitude of the General Accounting Office, whose interest stems from a concern for the maintenance of free and open competition for award of Government contracts. Two main principles have evolved: ***first,*** that specifications accompanying invitations for bids should not be so drawn as to make unavoidable the use of a patented item unless (i) the item represents the minimum needs

of the Government, and (ii) no suitable substitute is available; and *second,* that the mere fact that a specified item is covered by patent is no justification, ***per se,*** for sole source negotiation with the patent owner.[18]

b. Unpatented Proprietary Material. Since the Government has not consented generally to be sued for misuse of proprietary material except in the case of patented inventions, no suit will lie for such things as unauthorized use of drawings or other technical data, unless the claim can be founded in contract or based on the Mutual Security Act (22 U. S. C. 1758); or its successor statute, the Foreign Assistance Act of 1961.[19]

Whether or not any such claims are remediable under the Federal Tort Claims Act (28 U. S. C. 1291) is a question which has not been adjudicated. In view of this lack of remedy, the moral factor attending Government operations in respect to proprietary material becomes more compelling. As a major factor in Government procurement this problem is comparatively new and was little known prior to about 1950. The Defense Department position, now found in Part 2, Section IX of ASPR, provides, in part:

> It is the policy of the Department of Defense to encourage inventiveness and to provide incentive therefor by honoring the "Proprietary data'' resulting from private developments and hence to limit demands for data to that which is essential for Government purposes.

The Comptroller General decision[20] would not apply in the case of unpatented proprietary items, since it is based on the grounds that Congress has provided adequate legal remedy for the patent owners, but this is not the case with proprietary material.

48. Government Liability.

The basis for action against the Government for violation of proprietary rights is contained in each of three statutes, highlighted as follows:

a. Act of 1910 As Amended (28 U. S. C. 1498). This statute provides for suit against the Government for infringement of patent rights and copyrights. It does not apply to infringement of trademarks, or to misuse of unpatented proprietary data. It limits the owner's remedy to suit in the U. S. Court of Claims, and it applies to acts by others where the acts are in behalf of the United States. One effect of the statute is, therefore, to prevent interruption of Government procurement activities by removing the possibility of court injunction, customarily resorted to for restraint of infringement. However, the application of this statute to those supplying the Government is dependent upon the ''authorization or consent" of the Government to the infringing act, and for this reason an "Authorization and Consent'' clause is usually included in Government contracts.[21] Government employees are not barred from suing the Government for patent infringement, except where the inventor was in a position to order, influence, or induce use of the invention by the Government, or where the invention was related to official, research and development functions of the employee, or Government time, materials or facilities were used in making the invention.

b. Mutual Security Act (22 U. S. C. 1758).* This statute applies to "information" as well as patented inventions and makes the Government liable for unauthorized use of the invention within the United States or damage resulting from disclosure of the information, if such use or disclosure is in connection with furnishing of assistance under the Act. The owner's exclusive remedy is by suit in the Court of Claims or the U. S. District Court of his residence, but settlement may be effected by agreement with the Department involved. As to rights of Government employees, provisions similar to those of 28 U. S. C. 1498 apply.

c. Invention Secrecy Act (35 U. S. C. 181). This statute provides for special protection within the Patent Office of any invention, regardless of ownership, the disclosure of which would be, detrimental to the national security. It should be understood that all patent applications are secret in the sense that they are not disclosed to anyone outside of the Patent Office staff. The special treatment of cases affecting the national security resides in avoiding publication of the invention, either by

[18] C. G. Decision B-136916, 6 October 1958, 119 U. S. P. Q. 187.

[19] Foreign Assistance Act of 1961 as amended 4 Sept. 1961. (22 U.S.C. 2356)

[20] C. G. Decision B-136916, *Ibid.*

[21] However, where there has been acceptance by the Government of supplies which infringe patents, the Courts have held that authorization and consent may be implied. (See *Drexler* et *al.* v. *Koza et al.*, 85 U. *O.* P. Q. 78 and *Bereslawsky* v. *Standard Oil* Co., 80 U. S. P. Q. 353, Affirmed 82 U. S. P. Q. 334.)

* This Act now superseded by Foreign Assistance Act of 1961. (See note 19.)

suspending examination of the case or by deferring issue of the patent. Government-owned cases and privately owned cases selected by the Commissioner are evaluated from the security standpoint by a board having a representative of each of the Military Departments and agencies. Each member having access to a patent application must sign an acknowledgment of the access, which is kept in the patent file, and use of the information is not permitted for any other purposes than security determination. Secrecy orders do not extend beyond one year but may be renewed. In time of national emergency the period is for the duration plus six months.

The liability of the Government under the Secrecy Act is contained in 35 U. S. C. 183. The right of recovery of a party whose patent application has been held under a secrecy order is based on (1) actual damages due to the withholding of the patent grant and (2) use by the Government of the invention. The injured party may file his claim with the head of the Department which caused the order to be issued and enter into a settlement agreement, or he may bring suit in the Court of Claims. 'Phis claim may be instituted upon notice of allowability of the patent application, whereas the suit is available only after issue of the patent. If the Department cannot effect full settlement, it may award up to 75 percent of what it deems a reasonable amount, and the claimant may sue in the Court of Claims or in the U. S. District Court of his residence far the balance of what he considers just compensation. No right is conferred on one who made the invention while a full-time employee of the Government.

49. Processing Claims.

a. *Administrative.* In recapitulation, the authority in Government Departments and agencies to enter into agreements in settlement of claims before suit is brought (i.e., the administrative remedy) is conferred specifically as to claims in the Foreign Assistance Act (which extends to information as well as invention) and the Invention Secrecy Act; and authority is conferred generally in 10 U. S. C. 2386, along with the authority to purchase rights in patents, copyrights and technical data in connection with or apart from claim situations. Neither the statutes nor ASPR prescribe any rules of procedure €or administrative claims, the first measure of control appearing at the Department level. The system applicable within the Department of the Army is set forth in APP 9-105 to -105.73 and 9-1501 to -1509. The procedure bears little resemblance to court action, since the claimant, for the most part, has no part in the proceedings beyond submitting his claim in the first instance.

Claimant or his agent may be heard, from time to time, as a courtesy, but usually this is only entertained to give him an opportunity to further explain his case and not for bilateral argument. The power to enter into agreements under the above Acts has been delegated to the Commanding General, Army Materiel Command, and he in turn has delegated power to the General Counsel, Army Materiel Command as "designee" without power of redelegation. The Assistant General Counsel, Patent Law Division, is "representative" of the General Counsel to do all acts short of signing the agreements with the claimant. These acts will comprise: initial, cursory examination of the claim as presented, including correspondence with claimant to elicit critical information; request to the Patents Division of the Office of the Judge Advocate General (OJAG) for clearance to consider the claim, such request including specific information such as:

(1) Identification of the patent or patents alleged to be infringed or other basis for alleging infringement to include:

(a) Number and title of patents, etc.
(b) Name and address of the claimant.

(2) Identity of the contract or contracts under which the report was made to the contracting officer by the contractor together with the identity of any subcontracts that may be involved in the allegation of infringement and the names and addresses of such contractors and subcontractors.

(3) A copy of the communication from the claimant to the contractor or subcontractor, if any.

(4) A statement as to whether the contracts or subcontracts involved include indemnity provisions and identity of such indemnity provisions with respect to the contract or subcontract.

(5) Indentification of the installation or activity which directed the procurement of the supplies involved.

(6) A brief description of the supplies under procurement through the contract or subcontract invdved, which are alleged to infringe the patents or to otherwise constitute the basis of the alleged infringement made by the claimant.

(7) **Any other** information within the knowledge of the contracting officer or any comments of the contracting officer concerning prior or other experience in the procurement of the supplies concerned that would be of assistance to an understanding of the allegations of the claimant.

OJAG sends copies **of** the request **for** clearance and of the clearance to those Heads of Procuring Activities within the purview of **APP** 9-105.50 which may have an interest in the matter, asking that their findings be coordinated with the service having prime clearance. OJAG also advises appropriate services of the Navy and Air Force of the claim. No action on a claim is considered completed until all interested agencies have reported.

Upon granting of clearance, the involved Head of Procuring Activity investigates the claim. If the claim **is** found to have merit it is settled, if *pos*sible. If not, **a** final report, is submitted to OJAG, which will include information such as. contract identification, indemnity, Infringement data, Authorization and Consent, copies of pertinent patents, title search, validity search, employment by Government of inventor, list *of* witnesses, conclusions regarding infringement and validity, Government liability, money value of claim and estimated future procurement; statement of settlement efforts, and recommendations.

b. Court Suits. Patent infringement suits are defended by the Patent Section, Civil Division of the Department of Justice. The first formal notification **of** suit to the interested Department or agencies occurs when the Call from the Attorney General **is** issued. This is a request directed to the Heads **of** Procurement Activities for information to be submitted by a specified date €or use in defense **of** the suit. Thus, patent counsel at the Head **of** Procurement Activity level operates in the same manner **as** in the handling of an administrative **claim** with respect to the gathering of information. In case **of** settlement or compromise the Justice Department usually seeks the concurrence, and often the recommendations, **of** the Department concerned, and patent counsel are usually invited to settlement conferences.

50. Procurement of Rights.

Under **10** TJ. S. **C. 2386** the Government may use funds appropriated for supplies to procure rights in patents and other proprietary material, including manufacturing data ; and this right is not limited to cases arising out of alleged infringement. It may result from a proffer of a license, assignment, or other right; or it may come about by virtue of an interest on the part of the Government arising from its existing or potential needs. The Chief of AMCGC-L, representing the General Counsel, Army Materiel Command, carries out the negotiations leading to an agreement as to terms and conditions of the license and, based on these negotiations, prepares a final legal document for execution by the General Counsel, the designated contracting officer for Army Materiel Command for this purpose, and by the claimant. The final decisions are up to the General Counsel, Army Materiel Command. Administration of these agreements is usually assigned to the Subordinate Command or installation most closely connected with the involved procurement. Notice of the agreement is disseminated throughout the Army Materiel Command by circular letter; and if the participation is Army-wide, broader dissemination is effected.

The Government may acquire licenses by gift, but the acquisition is attended with some restraint by the provisions of **APP** 9-105.69, which makes certain ASPR clauses mandatory, and requires submission to the Deputy Chief of Staff for Logistics (DCSLOG) in certain enumerated instaiices. An instrument evidencing an outright gift, executed by the donor only, presents little or no difficulty **and** may be accepted out of hand and recorded. However, instances of such gifts are not very numerous, and in the usual situation the offer is made subject to some limitation calculated to secure to the offeror some guaranteed amount of the pertinent procurement. **As** thus categorically stated this device is not countenanced in Government contracting. However, within the Army there has developed a proven, workable plan wherein the license is granted but so limited that it does not come into being unless and until a certain specified happening has **oc**curred. This limiting event may be the award of a certain amount of supply contracting to the donor, but the Government is not in any way obligated to make any award; and if the condition is not met the parties are in no worse position than if the condition l grant has not been made.

51. Standardization of a Proprietary Item.

When there appears to be no alternative to the use of a proprietary item except to employ an un-

satisfactory inferior substitute, the item may be employed and standarized. Whenever possible, it is preferable to make mutually suitable arrangements with the owner of the proprietary item before standardization. This may lessen the possibility that the cost of such settlement will be unjustifiably increased as the owner becomes aware of the relative importance which the Government may attach to the item in question. Accordingly, when it is decided to standardize or type classify an item which includes a proprietary component or part, patent personnel should be immediately advised so that they may initiate negotiations to obtain a technical data package and other rights to insure competitive procurement. This latter action need not delay standardization.

52. Royalty-Based Licenses and Assignments.

A Subordinate Command or field establishment may receive a proposai to license or assign rights under one or more patents to the Army Materiel Command, to the Army, or to the Government as a whole. It is also.possible that a Subordinate Command or field establishment may determine that it is desirable to obtain a patent license or assignment in order to accomplish some particular objective. This determination may be made by a very limited testing of the patented item under the doctrine of "experimental use.'' What constitutes such use and not infringement such as will cause a penalty if suit is brought is a determination that should be made only with the advice of patent counsel. Clearance to consider and procure the license or assignment on behalf of the Department of the Army must be requested by the Patent Law Division, Army Materiel Command from the Office of the Chief of the Patents Division, Office of the Judge Advocate General, pursuant to the provisions of APP 9-1505. Subparagraph *b* of that section lists seven items of information which will be required for action in the request for permission. A field agency receiving a proffer of a patent license or assignment or desiring to initiate negotiations should forward to the Patent Law Division (AMCGC-L) the following:

(a) As many of those seven items as is practicable to obtain and send.

(b) A statement of any possible Army Materiel Command application or use of the subject matter of the proffered license or assignment.

(c) A recommendation as to acceptance of the proffered license or assignment by the Army Materiel Command.

In the event that a field establishment desires to procure a proposed license or assignment, request for clearance to investigate will be submitted through the Patent Law Division (AMCGC-L) pursuant to the Army Materiel Command Procurement Instruction.[22] This request should contain almost the same data as indicated above for reporting on proffered licenses, the major difference being that, in seeking authority to negotiate, a recommendation should be offered as to the proposed terms, conditions, and payments to be made.

Except for certain cases where the task may be delegated to a field installation having patent counsel, those instances where it is determined to procure the proposed license or assignment, the Patent Law Division will draft the contractual instrument for the Army Materiel Command contracting officer authorized to execute the license or assignment.

53. Patent Infringement Liability and Indemnification.

Notwithstanding the efforts of all concerned to avoid infringing anyone's patent rights, it is recognized that some activity engaged in by Army Materiel Command will, from time to time, result in the assertion of an infringement claim against the Government. This is particularly true in the case where work is performed for the Government under contract. In such cases, since the contractor is performing the alleged act of infringement, it formerly was the practice to sue the contractor for damages and simultaneously to seek to enjoin him from further infringement. Such injunctions, quite obviously, could cause serious interference with production vital to the national defense. For this reason a law was enacted (28 U. S. C. 1498) pursuant to which any suit for infringement of a patent based on the manufacture or use of a patented invention for the Government by a contractor or by a subcontractor (including lower-tier subcontractors) can be maintained only against the Government in the Court of Claims, and not against the contractor or subcontractor, in those cases where the Government has authorized or consented to the manufacture or use of the patented invention.[23]

In certain instances the Government may re-

[22] AMCPI 9-105.50 et seq.
[23] ASPR 9-102, *Authorization and Consent.*

quire, and the contractor may agree to furnish, patent indemnification to cover liability for damages which may be sought from the Government by virtue of manufacture, use, or sale by the contractor in the performance of a Government contract. This generally will be the case in connection with controls for supplies which normally are or have been sold or offered for sale by any supplier to the public in the commercial open market, or which are the same as such supplies with a relatively minor modification.[24]

It is possible to have both a patent indemnity clause and an authorization and consent provision in the same contract. Even though the Government may stipulate that the contractor is to consider himself authorized to supply a patented item or use a patented device or process in the performance of the Government contract, by agreement between the parties the contractor or subcontractor may assume the ultimate liability for damages in any suit therefor. In actual effect, the authorization and consent clause does no more than confirm the fact referred to above; namely, that by law (under 28 U. S. C. 1498) a contractor working on a Government contract cannot be enjoined or made the primary party in a suit for patent infringement relating to the work under contract. It is the presence or absence of the patent indemnity clause that determines the eventual relative liabilities of the Government and its contractors for infringement acts under such contracts.

[24] ASPR 9-103, *Patent Indemnification of Government by Contractor.*

54. Settlement, License, and Release.

The designee may, subject to the availability of appropriations and allotments of funds in his service, settle such claims by execution of a contract of release and license or release and assignment.= Normally, no contract will be entered into which includes a release of such a claim, or a license which will inure to the benefit of a contractor who has agreed to indemnify the Government (as by inclusion in his contract of the patent indemnification clauses of ASPR 9-103). Certain specified types of contracts in settlement of such claims or for obtainment of patent licenses must be approved pursuant to the provisions of APP 9-105.66.

[25] APP 9-105.50, *Acquisition of Releases of Past Infringement and Licenses.*

CHAPTER 5

PATENT PROBLEMS INVOLVING CONTRACTORS

I, PATENT CLAUSES IN GOVERNMENT CONTRACTS

55. Rights to Inventions Made by Contractors.

As discussed in paragraph 40, the rights of the Government and of its contractors in inventions made incident to the performance of contracts for the Government are determinable by the provisions of the contracts. As a rule, the Government will not require or seek to obtain rights to inventions which may happen to evolve out of the performance of a supply contract. Under a contract having research and development as one of its purposes, the general rule is that the Government will expect to receive a royalty-free, non-exclusive license to use or have used any inventions first conceived or first actually reduced to practice in the course of performing such work, or in the course of performing any prior experimental, developmental, or research work done upon the understanding in writing that a contract would be awarded.[26] Except in certain special circumstances[27] the rights of individuals under contract to the Government for personal services are governed ultimately by Executive Order 10096, dated 23 January 1950 (Appendix VIII), and any orders, rules, regulations, or instructions issued thereunder.[28]

56. Patent and Data Clauses To Be Used in Government Contracts.

The patent and data clauses called for by the provisions of Parts 1 and 2 of Section IX of ASPR, APP and AMCPI must be used when applicable. Variations from the prescribed contract clauses, constituting deviations according to ASPR 1-109 and APP 1-09, may not be employed without prior approval through AMCGC-L.

57. Special Types of Contracts or Clauses.

The following ASPR paragraphs provide special patent rights provisions that must be used in contracts under certain special circumstances:

a. ASPR 9-107.2c Contract clause when title is required.
b. ASPR 9-107.3 Foreign contracts.
c. ASPR 9-107.4 Contracts relating to atomic energy.
d. ASPR 9-107.5 Contracts relating to civil defense.
e. ASPR 9-107.6 Contracts involving product improvement or independent research.
f. ASPR 9-107.7 Contracts placed for NASA.
g. ASPR 9-108 Contracts for personal services.

II. REPORTS REQUIRED TO BE MADE BY CONTRACTORS

58. Royalty Payments.

The Government has acquired license and other rights under a large number of inventions as a result of Government-sponsored research and development and in other ways. In order that the Government may determine whether the charging of royalties to the Government is inconsistent with the rights which the Government has acquired or is otherwise improper, and in order that negotiation for the reduction of excessive royalties may be undertaken, the provisions of ASPR 9-110 and 9-111 are applicable.

59. Inventions and/or Discoveries.

Generally the patent rights (or license rights) clause is mandatory in any contract having experi-

[26] ASPR 9-107, *Patent Rights Under Contracts Involving Research and Development.*
[27] ASPR 7-503.9, *Patents.*
[28] ASPR 9-108, *Patent Rights Under Contracts for Personal Services.*

mental, developmental, or research work as one of its purposes. The Government, under this clause, is entitled to receive a royalty-free, nonexclusive license to practice any inventions conceived or first actually reduced to practice in the course of performing such work, or in the course of performing any similar work prior to the contract upon the understanding in writing that a contract would be awarded. The contractor is required to report to the contracting officer, during and at the end of the eontract, on all inventions which reasonably appear to be patentable and, in case subcontracts are let, to give notice of the fact to the contracting officer. It is the responsibility of the contracting officer or his appropriate designee to determine that all patentable items have been reported and that none has been omitted through either inadvertence or design. The report can conveniently be made on DD Form 882, shown as Appendix XII, which normally is supplied to the contractor by the contracting officer to whom the report should be returned when it is completed and signed. That report form, it will be noted, requires the contractor to indicate, among other things, whether a confirmatory license or assignment has been forwarded to the contracting officer (as required by the terms of the particular contract).

In this connection the need for adequate follow-up of contractor inventions by cognizant personnel cannot be overemphasized.

60. Notice and Assistance Regarding Patent Infringement.

ASPR 9-104 sets forth the notice and assistance clause which is mandatory in all contracts over $10,000. The clause requires the contractor to report to the contracting officer, promptly and in some detail, each notice or claim of patent infringement which is based on the performance of the contract involved and of which the contractor has knowledge. If the Government is sued because of such a claim, the contractor is required to furnish all evidence and information which he possesses that might aid the Government in defending against such a suit. The Government will pay the expenses involved in rendering such assistance except where the contractor has agreed to indemnifv the Government against the claim being asserted.

111. USE BY CONTRACTORS OF PATENTS NOT OWNED BY THEM OR GOVERNMENT

61. Some Factors To Be Considered.

Under 28 U. S. C. 1498, no contractor or subcontractor of the Government can be subjected to suit for infringement of a patent based on the manufacture or use of a patented invention for the Government in those cases where the Government has authorized or consented to the manufacture or use of the patented invention. While authorization and consent may be implied where there has been delivery and acceptance, it is preferable that they be spelled out in the contract.[29]

Although it is evident from the foregoing that the Government contractor is not subject to suits for infringement by patent owners, he may ultimately have to bear the liability for damages in such a suit. This will depend upon the presence or absence of a patent indemnity clause. Patent indemnification iiormally is expected by the Government and agreed to by the contractor in advertised contracts for construction, or for supplies which normally are or have been sold or offered for sale by any supplier to the public in the commercial open market, or which are the same as such supplies with a relatively minor modification.[30]

62. When Such Patents Should or Should Not Be Used.

From the various considerations discussed in the preceding paragraph, some general conclusions may be reached as to when contractors should use patented inventions in the performance of a contract for the Government. Inventions owned by or licensed to the Government may, of course, be used, and the contracting officer would do well to spell out such facts in the contract or otherwise make them clear to the contractor when they are known. The contractor obviously can use his own patented inventions. However, just because the contractor uses his own patents or those to which the Government has rights, this in itself need not indicate that he will thereby avoid infringing the patents of others (that is, so-called 'dominant'' patents). To determine the pros and cons of the possibility

[29] ASPR 9-102.1, *Authorization and Consent* article (in supply contracts) and 9-102.2 (in research and development contracts).

[30] ASPR 9-103, *Patent Indemnification of Government by Contractor.*

the contractor may require the advice of patent counsel.

When the eontract contains no patent indemnity clause and there is no requirement of a specified item "or equal," the contractor should feel that he is authorized by law to follow closely the specific requirements of the contract even if it means an apparent infringement of some other party's patents. Of course, if an authorization and consent article is included in the contract, the contractor may thereby be more firmly assured of this privilege and immunity from suit.

63. When Specific Approval from Contracting Officer to Use Such Patents Is Required.

It may be stated that, as a rule, the primary concern of the Army in its contracting activities is to obtain the best possible equipment or other objectives, from a qualitative standpoint. Cost, while exceedingly important, is of necessity a secondary consideration. Accordingly, if it appears necessary to use patented inventions to obtain a desired objective and the avoidance of such use will result in a much inferior product or accomplishment, then the patented items will be employed without regard to the additional expense. However, this decision is one for the Government to make, not the contractor.

A contractor may find it will be necessary to employ in a Government contract a patented invention to which neither he nor the Government has title of other right. Suppose that the contract contains or is to contain a patent indemnity clause and the contractor is reluctant to use the patented invention because of the infringement liability risk which he may thereby incur. Under such circumstances he may request the contracting officer to include a waiver of indemnity[31] clause in the contract, specifying one or more patents which he may wish to have exempted from the indemnification provisions. Such a waiver, which must ultimately be approved by the Secretary of the Army, is applicable solely in the performance of a particular contract for which it is requested and granted.

[31] ASPR 9-103.4.

CHAPTER 6

MISCELLANEOUS MATTERS

I. APPLICATIONS FOR PATENT BASED ON PREVIOUSLY FILED CASES

64. Substitute or Refile for Abandoned Application.

This term is used to describe a new application for patent which is not connected by copendency[32] with an earlier filed, abandoned application of the same inventor(s) involving patentable subject matter which is common to both cases and no new patentable subject matter.

65. Continuation or Continuing Application.

This terminology is employed to refer to an application connected by copendency with an earlier filed application of the same inventor(s) involving no new patentable subject matter.

66. Continuation-in-Part.

This term has reference to an application connected by copendency with an earlier application of the same inventor(s) involving patentable subject matter common to both cases and new patentable subject matter, that is, matter which was not disclosed in the earlier or "parent" application.

67. Divisional Application.

This term has reference to an application connected by copendency with an earlier application of the same inventor(s) in which the entire subject matter of the later application is contained in the earlier application, along with matter not claimed in the later application.

68. Reissue Application.

This term refers to applications for issuance new patent in order to rectify defects discovered to exist in patents which were issued previously. By law (35 U. S. C. 251) if a patent is, because of an error free of deceptive intention, deemed wholly or partly inoperative or invalid, the Commissioner of Patents is empowered to reissue the patent in proper form and substance for the unexpired part of the term of the original patent. Errors which may warrant a reissued patent are an inaccurate specification or drawing, or a claim in the original patent for more or less than the patentee had a right to claim. No new matter may be introduced into the application for reissue. A reissue patent, incidentally, is identified by the letters "RE" before the number of the patent (as RE 0000), and the patent is printed so as to indicate just what changes have been made in the original patent (which the patentee must surrender to the Commissioner on submitting the reissue application).

[32] **To be *connected by copendency* a second application must be filed before (a) the patenting, or (b) the abandonment of, or (c) the termination of proceedings in the first application.**

11. PATENTS AND INVENTIONS INVOLVING CLASSIFIED DATA

69. Publication Might Affect Public Welfare.

In the performance of a contract, inventions may be made which involve data considered to be of a classified nature, from the standpoint of national security. Unauthorized disclosure **of** such subject matter, whether in patent applications or as a result of the issuance of a patent, may be a violation of 18 U. S. C. **791** and following (Espionage and Censorship), and related statutes. Accordingly, one of the clauses entitled "Filing of Patent Applications"[33] is required to be included in every classified contract and in every unclassified contract which covers or is likely to cover classified subject matter. This clause provides that a patent application disclosing any subject matter classified **as**

[33] **ASPR 9-106.**

"Secret" or higher shall, before filing, be transmitted to the contracting officer for determination whether, for reasons **of** national security, such application should be placed under an order of secrecy or sealed in accordance with the provisions of **35** U. S. **C.** 181-188, or whether the issuance **of** a patent should be otherwise delayed under pertinent statutes or regulations. A period of **30** days is allowed for the determination, but the contractor shall not be denied the right to file such application. In cases where the subject matter disclosed is "Confidential," filing of the patent application need not be delayed. For a determination as to whether the application should be placed under an order of secrecy, etc., as indicated above, the contractor is required to submit a copy of the patent application to the contracting officer at the time of or prior to the filing of such application.

In cases of classified contracts to be performed outside the TJnited States, ASPR 9-106.1 requires inclusion of a clause which prohibits the filing of a patent application in any country without first obtaining the written approval of the contracting officer.

111. OTHER FORMS OF INTELLECTUAL PROPERTY

70. Introduction.

Thus far, we have dealt almost exclusively with but one form of intellectual property, namely, patents. Although no special distinction was made before, reference to the term "patents" was intended primarily to embrace the type of subject matter which the average individual normally thinks **of** when patents are referred to—namely, mechanical, chemical, or electrical inventions. However, there are two other types of patents (plant and design) and some other valuable forms **of** intellectual property (that is, the intangible property represented by novel ideas). One form of intellectual property that is not subject to our patent laws is proprietary and other technical data, some of which may be subject to the copyright laws and others of which cannot be protected at all except by keeping it as a "trade secret." **A** brief discussion of these various nonpatentable forms of property may point up some of the distinguishing features of each.

71. Technical Data.

Since the 1955 edition **of** the Armed Services Procurement Regulation many of the objections raised by both industry and Government officials to some of its earlier provisions on patent rights clauses have been eliminated. Technical data (sometimes called merely *data)* was covered by ASPR in a Revision No. 21, published on **9** April 1957. This revision incorporates a new Part 2 in Section IX of ASPR entitled "Data and Copyrights." Since that time there have been many revisions to this part.

The problems involved in connection with technical data arose because of objections of many contractors to what was formerly known as subparagraph (d) of ASPR 9-107.1. This provision, which was popularly referred to as the "little (d)" was appended to the clause granting license rights under foreground inventions—that is, those made in the performance of a research and development contract. The problems stemmed from opposing views as to whether the right granted the Government to reproduce and use drawings, reports, and other technical data, may also have given the Government the right to use that data to make the devices disclosed or described.

The new Part 2, as stated in ASPR 9-200, sets forth the Department of Defense policy, implementing instructions, and contract clauses with respect to acquisition and use of writings, sound recordings, pictorial reproductions, drawings, or other graphic representations and works **of** any similar nature (whether or not copyrighted), called "data," furnished under contract.

In ASPR 9-202.1 the principles underlying the acquisition of data are discussed. In general, the policy of the Department of Defense is to acquire only that data which is essential for the purposes for which it is to be used. Such data normally will be required only for Governmental purposes. The price paid for such data may be included as a separate item **of** the contract.

The following terms as set forth in ASPR 9-201 bear directly on the acquisition and use of data:

> (a) ***"Datu"*** means writings, sound recordings, pictorial reproductions, drawings, or other graphic representations and works of any similar nature whether or not copyrighted. The term does not include financial reports, cost analyses, and other information incidental to contract administration.

(b) *"Proprietary datu"* means data providing information concerning the details of a contractor's secrets of manufacture, such as may be contained in but not limited to his manufacturing methods or processes, treatment and chemical composition of materials, plant layout and tooling, to the extent that such information is not readily disclosed by inspection or analysis of the product itself and to the extent that the contractor has protected such information from unrestricted use by others.

(c) *"Other data"* means all that data other than "proprietary data" and includes:

(i) Operational data which provides information suitable among other things for instruction, operation, maintenance, elevation or testing; and

(ii) Descriptive data which provides descriptive or design drawings or descriptive material in the nature of design specification which, although not including any "proprietary data," may nevertheless be adequate to permit manufacture by other competent firms.

(d) *"Standard* ***commercial*** *items"* means supplies or services which normally are or have been sold or offered to the public commercially by any supplier.

"Proprietary data" is not to be requested in advertised contracts and in contracts for standard commercial items. When proprietary data is obtained in other contracts, it will be only when a clear Government need for such data is established and only as a result of a specific negotiation for it which is indicated by listing the contractual requirement as a separate contract item.

In a contract involving experimental, research or development work, which calls for a model or a practical process, the Government expects to receive all data necessary to manufacture the equipment or perform the process. Exceptions may be made from this requirement in the case of data for standard commercial items to be furnished under the contract and to be used with or incorporated as component parts in the product to be developed. Such exceptions are permitted if the contractor will agree to identify the source and furnish the Government with performance specifications and characteristics sufficient to procure from any supplier the part or an adequate substitute. The Government expects to obtain rights to all data resulting from the contract. It will negotiate for the right to use any "proprietary data -- previously developed by the contractor only where the product could not readily be manufactured or the process performed without the use of such "proprietary data."

ASPR 9-20.5 sets forth the policy of the Department of Defense regarding copyrighted or copyrightable data acquired under contract. The Department expects only a license and, as a rule, the contractor is free to copyright the material. With respect to certain data prepared for the Department, such as motion pictures, histories, etc., the Government may desire that no adverse claim of copyright be established in such data, and that the Government's use of such data shall be unlimited.

ASPR 9-204 and 9-206 set forth the actual contract clauses for various types of data under certain specified conditions. The explanations given in those paragraphs should be considered in determining which clause, if any, should be incorporated in a contract.

Data specified for delivery under contract or otherwise acquired should be properly marked and identified to enable the determination of the Government's rights in these data. See also APP 9-202.1 and 9-203.1.

72. Design Patents.

Such patents are granted to "whoever invents any new, original and ornamental design for an article of manufacture."[34] Except as otherwise provided, the same provisions of the statute pertaining to the granting of patents for inventions shall also apply to patents for designs. Application for a design patent must be made to the U. S. Patent Office. It must include an inked mechanical drawing in a sufficient number of views to constitute a complete disclosure of the appearance of the article. Other than a brief reference to the drawing, no specific description is ordinarily required or permitted. Only one claim is permitted to be filed, and it must merely refer in formal terms to "the ornamental design for the article (specifying name) as shown, or as shown and described." Design patents are granted for terms of 3½, 7, or **14** years, and the applicant should specify in his petition which of the three terms he wishes and include the corresponding fee.

[34] U. S. C. 171; current *Rules of Practice of the U. S. Patent Office in Patent Cases.*

73. Plant Patents.

Such patents are granted to "whoever invents or discovers and asexually reproduces any distinct and new variety or plant, other than a tuberpropagated plant."[35] Except as otherwise provided, the same provisions of the statute pertaining to the granting of patents for inventions shall also apply to patents for plants. Applications for a plant patent must be made to the U. S. Patent Office. It must include an artistically and competently executed drawing which discloses all the distinctive characteristics of the plant capable of visual representation. When color is a distinguishing characteristic, the drawing must be in color. A specification must be submitted, and it must contain as full and complete a disclosure as possible of the plant, its characteristics that distinguish it from related known varieties, and its antecedents, and must point out where and in what manner the variety of plant has been asexually reproduced. The plant patent grant "shall be of the right to exclude others from asexually reproducing the plant or selling or using the plant so reproduced"[36] for 17 years from the date of issuance.

74. Trademarks.

A trademark is any word, name, arbitrary mark, symbol, or device, or any combination thereof, which is adopted and used by a manufacturer or merchant to indicate the origin or the producer of some goods or services, thereby to distinguish them from those made or sold by others. Each state has laws governing the registration of such marks within its own jurisdiction and enforceable by its own courts. If the trademark is used in interstate commerce, it may then be registerable in the U. S. Patent Office under Federal laws and then will be enforceable in the Federal courts. Actually, unlike patents and copyrights which are authorized by the Constitution and implementing statutes, trademarks have their basis in the common law and need not be 'registered to establish ownership therein. Mere proof of prior use (not necessarily origination of the mark) is sufficient, in the normal case, to enable the original user to have others excluded from its use. However, Federal registration does give, in addition to the right to sue in the Federal courts, *prima* facie evidence of ownership and under certain circumstances will make that ownership incontestable after the registration has been in effect for five years.

Trademarks, like patents, are granted for a specific term (20 years), but unlike patents trademarks can be renewed repeatedly and held as one's property indefinitely if properly protected. Care must be exercised to prevent abandonment for lack of use. Even more precaution must be exercised to forestall such common adoption and use of the mark that it acquires the status of a common word. Once this is permitted to happen the mark will have lost its proprietary significance and cannot be protected. Examples of such cases are aspirin and cellophane, both of which were names employed to identify proprietary materials but were allowed by their originators to be used without adequate precautionary safeguards. To prevent such occurrences the owners of a trademark should always indicate, whenever the mark is used, that it is proprietary. This can be done by capitalizing the name, using it with quotation marks, employing an asterisk, and specifically calling attention to the fact that the mark is the property of a named owner and/or that it is a registered trademark.

75. Copyrights.

Like patents, copyrights have their original authority in Article I, Section 8, of the Constitution which provides that there shall be secured for limited times to authors and inventors the exclusive right to their writings and discoveries (which includes the right to exclude others from copying and selling the work covered thereby). Prior to publication the rights of an author are protected by the common law. After publication his rights depend upon statutory law and his compliance with it. To obtain the benefits of the copyright statutes, the author or his assignees must register the claim to copyright in the office of the Register of Copyrights, Library of Congress, Washington, D. C. The procedures are relatively simple, and information and application blanks for this purpose can be obtained directly by forwarding a request to the Register. Copyrights are granted for a term of 28 years and are renewable for an additional period.

With regard to Government use and publication of copyrighted material, copyright owners may

[35] U. S. C. 161; current *Rules of Practice of the U. S. Patent Ofice in Patent Cases.*

[36] U. S. C. 163; current *Rules of Practice of the U. S. Patent Ofice in Patent* Cases.

now be assured that under the law[37] their copyrights will not be abridged or annulled as a result of the publication or reproduction of the copyrighted material by the Government. As another point worthy of note, copyrights cannot be obtained for any Government publication. The Copyright Act of July **30,** 1947, as amended, provides in Section 8: "That no copyrights shall subsist in the original text of any work which is in the public domain. . . ." The same section specifically excludes from copyright "any publication of the United States Government or any reprint in whole or in part thereof." Regulations governing the use by the Army of material copyrighted by persons or firms outside the Government are set forth in detail in **AR** 310-i, Part IV.

76. Trade Secrets

When a person invents or discovers something, he is privileged, unless under contractual obligations to do otherwise, to keep his findings to himself. **As** long as the findings are kept a secret, the originator has certain property rights therein, all of which are protectable by the common law against unlawful appropriation, on the theory that one is entitled to the fruits of his own labors. All inventions or discoveries may be treated as trade secrets. However, trade secrets which are protectable as such by law need not necessarily be inventions or discoveries. For example, valuable secrets which result from industrious, although noninventive, efforts are entitled to protection.

The maintenance as a trade secret of new and useful information which might possibly advance the progress of the arts and sciences is, of course, diametrically opposed to the purpose of the patent and copyright laws. As a leading author on the subject of trade secrets has said:

> The patent and copyright laws were enacted for two main reasons:
>
> *First,* because the common-law rights mentioned in the preceding section (i.e., in trade secrets) would be lost by publication and hence, in the absence of protection against the results of publication, inventors and writers would endeavor, *to the Eoss* of *the public at large,* to keep their inventions and writings secret.
>
> *Second,* to encourage inventors and authors to create *for the common good,* by giving them more certain protection arid greater recompense than is possible under purely common law and equitable principles.[38]

For the reasons just mentioned, the law tends to encourage persons not to keep trade secrets but to obtain a lawful monopoly on them by patent or copyright, even though for a limited period of time, in exchange for disclosing the new ideas, etc., to the public. By the same token, those who fail to take advantage of these provisions of the law, when eligible to do so, must suffer the consequences if they **find** that their trade secrets inadvertently "leak" to the public at large or that others quite independently come upon the same information and discoveries or other. creations of the intellect, are patentable or copyrightable, or they may be of such a nature that enforcement of a patent or copyright would be extremely difficult and uneconomical. In such instance it may be deemed wise, either as a matter of necessity or of practicality, to maintain information as a trade secret for as long as possible. As a rule, only counsel experienced in such matters can make such an election with reasonable assurance of success. A procedure employed by some patent practitioners is first to file a patent application, then, after seeing what sort of patent claims will be allowed, to determine whether to permit the patent to be issued or abandon it and rely on secrecy for whatever protection can be achieved.

77. Items of Additional Interest Relating to Patent Matters.

Appendixes XIII through XVI relate to Incentive Awards forms, which are of general interest relating to patent matters and the release of technical data.

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37 **Act of July 30, 1947 (17 U. S. C. 8).**

38 **Ridsdale Ellis,** ***Patent Assignments and Licenses,*** **Raker, Voorhis & Co., Inc.,** N. **Y., 1943, p. 5. See also Ridsdale Ellis,** ***Trade Secrets,*** **Baker, Voorhis & Co., Inc., N. Y., 1953.**

GLOSSARY

assignment.

The transfer of the entire interest in a patented invention or of an undivided portion of such entire interest. Cf. **grant, license,** and **exclusive license.**

claim.

Definition by applicant for patent of particular things in which he contends his invention is novel and patentable; the clause at the end of the application by which applicant specifies precisely in what way his invention is to be patentably distinguished from the prior art.

conception.

The mental act in the making of a patentable invention which must precede reduction of the invention to practice, both of which elements are required to qualify for a patent.

copyright.

The right of literary property as recognized and sanctioned by positive law. An intangible, incorporeal right granted by statute to the author or originator of certain literary or artistic productions, whereby he is invested, for a limited period, with the sole and exclusive privilege of multiplying copies of the same and publishing or selling them.

engineering notebook.

See **laboratory notebook.**

exclusive license.

Exclusive permission to use, manufacture, and sell patented article. Contract not to give leave to anyone else to do the same thing. Cf. **license.**

grant.

1. The conveyance by the Government to **a** successful applicant for patent of the right to exclude others from practicing the invention covered by the patent for a term of 17 years. 2. That part of the application for patent by a Government employee wherein the inventor grants to the Government the right to use the invention without the payment of any royalty.

intellectual property.

Intangible creations of the mind, including inventions, useful "know-how," technical and ornamental designs, and literary, art and other products of man's ingenuity.

interference.

A proceeding which takes place in the Patent Office whenever it is decided by that Office that one or more claims in two pending applications (or a patent and a pending application) cover the same discovery or invention, and comprises an investigation into the question of priority of invention between the claims of the two inventors.

laboratory notebook.

Notebook to be kept by engineers, scientific and laboratory personnel for the purpose of recording by dates the projects undertaken, work performed, and results achieved. All entries should be dated, signed and witnessed in such manner that the notebook serves not only as a technical record but also as a useful legal document for establishing the. dates of conceptions, inventions, etc., in connection with patent disputes.

letters patent.

Open letters. *Specif.,* an instrument proceeding from the Government and conveying a right, authority, or grant to an individual for the exclusive right to exclude others from making, using or sell-

ing a new invention. Familiarly termed a **patent,** which see.

license.

Authority granted by the owner of a patent to another person empowering the latter to practice the invention covered by the patent, and may be for a limited period or in a limited territory. Cf. **exclusive license, assignment,** and **grant.**

patent.

Short for *letters patent.* A grant made by the Government to an inventor, conveying and securing to him the exclusive right to exclude others from making, using or selling his invention for a term of years.

pendency.

The state of a patent action after it has been begun in the Patent Ofice and before the final disposition of the case.

petition.

1. That part of a patent application wherein the inventor petitions for the grant of letters patent. 2. **A** formal request of the Commissioner of Patents to authorize or direct some action, usually an action in connection with a patent application which has been refused by the Examiner in charge of the case.

power of attorney.

A legal instrument authorizing a person to act for another.

prior-art search.

1. A search for prior art which may possibly anticipate an invention which is being considered for patentability. *2.* **A** similar search but for the purpose of determining the status of existing technology before going ahead with new research—done so as to avoid unwittingly retracing steps taken by other workers in the field.

proprietary item.

One which is patented, or manufactured or compounded by design, formula, process, or other methods which are not in the public domain and which are safeguarded by the manufacturer as trade or commercial secrets. An item to which property rights attach which are protectible at law.

proprietary rights.

Refers to those personal property or other rights subsisting in the product of an originator's mental effort which may be established by statute, common law, or agreement, and includes, but is not limited to, rights in inventions and/or designs, either patented or unpatented ; trade secrets and "know-how,'' comprising technical data in the form of reports, drawings, blueprints, data, and technical information (designs, processes, and manufacturing data under 10 U. S. C. 2386) ; and material subject to copyright.

trademark.

A distinctive mark, motto, device, or emblem, through which the product of particular manufacturers or the vendible commodities of particular merchants may be distinguished from those of others.

trade secret.

A secret formula or process not patented, but known only to certain individuals using it in compounding some article of trade having a commercial value.

APPENDIX I

SAMPLE PAGE IN LABORATORY NOTEBOOK

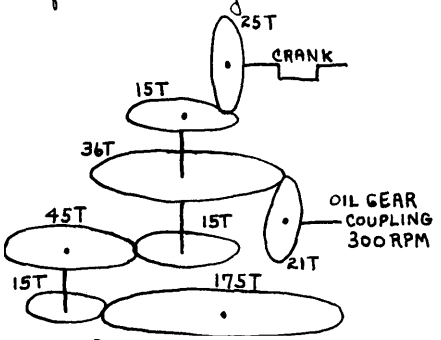
Work Continued from Page 12 . .

FRANKFORD ARSENAL

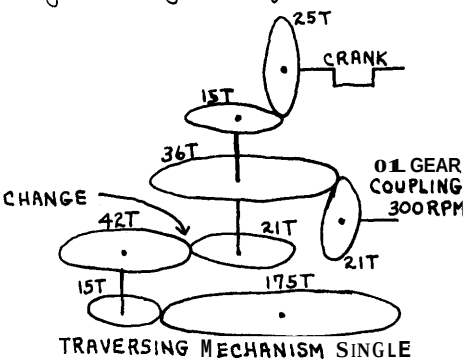
Page 1

Project No TR5-5067B.FC-55

Carriage gearing change – this was done to obtain the 45°/sec max rates in azimuth. Originally the extra speed was obtained by speeding up the hydraulics. The carriage change keeps the az. and el. oil gears interchangeable and keeps effects of driving the oil gear at faster rates from becoming evident.



TRAVERSING MECHANISM SINGLE 40MM M2A1



TRAVERSING MECHANISM SINGLE 40MM M2A1E2 AND M2A3

The 15T pinion-shaft combination is replaced by a 21T pinion and integral shaft. The 45T gear is replaced by a 42T gear. An investigation of the gearing shows that this change will make the gun travel 1½ times its original rate. $\frac{45}{15} \times \frac{21}{42} = \frac{3}{2}$. This change also affects the ratio of handcrank turns to carriage rotation. Following are ratios. —

	M2A1	M2A1E2
Power operation	$300 \frac{21}{36} \frac{15}{45} \frac{15}{175} \frac{360}{60} = 30°/\text{sec}$ (5 rpm)	$300 \frac{21}{36} \frac{21}{42} \frac{15}{175} \frac{360}{60} = 45°/\text{sec}$ (7½ rpm)
handcrank operation	$360 \frac{25}{15} \frac{15}{45} \frac{15}{175} = 17\frac{1}{7}°$ of gun rotation/turn of handcrank	$360 \frac{25}{15} \frac{21}{42} \frac{15}{175} = 25\frac{5}{7}°$ of gun rotation/turn of handcrank

Work Continued on Page 14 . .

Work Done by . J. Bonanno . . . Date May 12, 195

Read and Understood by . W. M. Rusk . . Date 5/12/57.

Read and Understood by . J. A. Frank . . . . Date 5/13/57 . .

APPENDIX II

SAMPLE FORM

MILITARY INVENTION RECORD
Government-Employee or Contractor-Employee

1. NAME OF INVENTOR(s)	2. RANK or GRADE & JOB TITLE	3. P.O. ADDRESS OF LEGAL RESIDENCE
John P. Doe	GS-13 Ordnance Engineer	1234 Main St. Philadelphia, Penna.

4. SHORT TITLE OF INVENTION	5. SECURITY CLASSIFICATION	
	a. INVENTION	b. INVENTION TITLE
Incendiary Bullet	Unclassified	Unclassified

See attached Patent Data Disclosure Sheet, dated 4 May 1962. (Appendix IV)

7. STAGE OF DEVELOPMENT	DATE	LOCATION
a. Conception of invention	1 Dec 1961	Frankford Arsenal
b. Disclosure to others	10 Dec 1961	Frankford Arsenal
c. First sketch or drawing	2 Dec 1961	Frankford Arsenal
d. First written description	9 Dec 1961	Frankford Arsenal
e. Completion of model or full-sized device	10 Feb 1962	Frankford Arsenal
f. First test of operation of invention	15 Feb 1962	Fort Dix, N. J.

9. NAMES OF PERSONS HAVING KNOWLEDGE OF INVENTION AND FACTS STATED IN ITEMS 7 AND 8

Joseph Doakes
U. Samuel
Both of Frankford Arsenal.

8. RESULTS OF TEST

Satisfactory. Bullet set combustible contents of wooden box on fire instantly when fired at 100 yards.

10. RECORDS, REPORTS AND/OR PUBLICATION RELATING TO THE INVENTION

Final Report under Project XYZ-14, dated 15 April 1962.

11. PATENTS AND PATENT APPLICATIONS RELATING TO THE INVENTION

None

12. LICENSES OR ASSIGNMENTS RELATING TO THE INVENTION

None except proposed assignment to U. S. Government

13a. CONTRACTOR (If Involved)	b. CONTRACT NUMBER
None	

14a. INVENTOR(s)		b. WITNESSES	
4 May 1962 DATE	John P. Doe SIGNATURE	4 May 1962 DATE	Joseph Doakes SIGNATURE
DATE	SIGNATURE	4 May 1962 DATE	U. Samuel SIGNATURE
DATE	SIGNATURE		

15. FORWARDING OFFICER STATE PROBABLE UTILITY OF INVENTION

Invention will probably be adopted for general incendiary purposes. Further firing texts will be made against various types of targets to determine optimum

(continued on back) (Appendix III)

16. FORWARDING OFFICER

DATE 7 May 1962 NAME R. R. Roe

OFFICIAL TITLE Commanding, Frankford Arsenal SIGNATURE R. R. Roe

REVERSE SIDE OF THIS SHEET MAY BE USED FOR ADDITIONAL INFORMATION

APPENDIX III

AMPLE FORM - MILITARY INVENTION RECORD - Government- or Contractor-Employee

INSTRUCTIONS

The following information *will be given* under the headings indicated

2. The inventor should give his rank, position. or status of employment at the time invention was made.

3. He should give his permanent address.

7. Care should be taken to give the earliest date on which the invention suggested itself to you, even though it was not completely in mind. If the invention comprises different inventive ideas, give the dates with reference to each part of the invention separately, taking care to identify each part clearly in the description of the invention.

1. List all applications for patents by filling dates, serial number and title.

12. State what rights in the invention have been granted to others including extent of interest granted and date of recording assignment or license in Patent Office.

13. If contracts have been placed for the invention, or if the invention was made in connection with the performance of a contract in which the United States is interested. the facts should be given.

14. It is desirable that the witnesses be familiar with the facts stated and understand the construction and operation of the invention

DDITIONAL INFORMATION AND REMARKS:

(continued from 15 above) (Appendix II)

wall thickness of jacket. Also jacket of various types of metal will be tested.

APPENDIX IV

(NOTE: This is a "suggested" form for optional use with Military Invention Record)

PATENT DISCLOSURE DATA SHEET

(FOR ATTACHMENT TO MILITARY INVENTION RECORD)

SHEET 1 OF 1

DOCKET NUMBER: SMUFA-506'

TITLE OF INVENTION: INCENDIARY BULLET

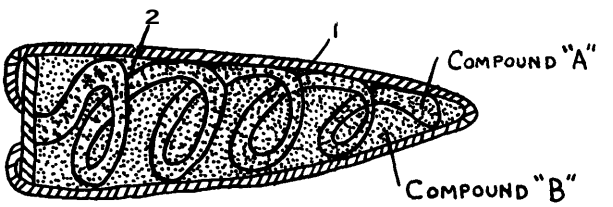
REFERENCE DATA:
LABORATORY OR ENGINEERING NOTEBOOK NUMBER s-y3 PAGES 15 and 16
OTHER: Final Report on Project XYZ-14, dated 15 April 1962

DESCRIPTIVE WRITE-UP. (INCLUDE SKETCHES, IF POSSIBLE)

I propose an incendiary bullet (small arms) consisting of two well-known incendiary mixtures, Compound "A" and Compound "B". These two materials are known to be highly sensitive to each other so that they cannot be placed in contact with one another without causing a tremendous conflagration. The heat and fire caused by both together is far greater than that caused by either compound separately, and even far greater than the mathematical sum of their respective individual values (as determined pyrometrically).

By my arrangement, as illustrated below, the two compounds are kept completely separated from'each other while in the bullet, but, upon impact of the bullet upon its target, the jacket 1 bursts, as does the frangible, spiral tube 2 in which Compound A is contained. This causes Compound A to mix instantaneously with' Compound B which is dispersed throughout the interior of the bullet jacket.

The purpose of the spiral tube 2 arrangement is to provide a means for effecting rapid mixing of the two compounds throughout the length and width of the bullet when it strikes its target.



WITNESSED AND UNDERSTOOD BY		INVENTOR(S)	
Robert Walker	4 May 1962	John Doe	4 May 1962
SIGNATURE	DATE	SIGNATURE	DATE
V. Samuel	4 May 1962		
SIGNATURE	DATE	SIGNATURE	DATE

APPENDIX VA

SOLE

Oath, Power of Attorney, Grant, Petition

Being duly sworn, I, John P. Doe
depose and say that I am a citizen of The United States residing at

1234 Main Street, Philadelphia, Pennsylvania ; that
I have read the attached specification and claims and I verily believe I am the original, first and sole inventor of the invention in Incendiary Bullet

described and claimed therein; that I do not know and do not believe that this invention was ever known or used before my invention thereof, or patented or described in any printed publication in any country before my invention thereof, or more than one year prior to this application, or in public use or on sale in the United States for more than one year prior to this application; that this invention has not been patented in any country foreign to the United States on an application filed by me or my legal representatives or assigns more than twelve months before this application; and that no application for patent on this invention has been filed by me or my representatives or assigns in any country foreign to the United States.

And I hereby give irrevocable control of my application for Letters Patent to the Secretary of the Army, and appoint * , and whose post-office address is Department of the Army, U.S. Army Materiel Command, Washington 25, D. C., my attorneys or agents with full power of substitution and revocation, to prosecute this application, to transact all business in the Patent Office connected therewith, and to receive the patent.

Wherefore I pray that Letters Patent be granted to me for the invention described and claimed in the attached specification and claims, without payment of fees, pursuant to the provisions of Section 266 of the Patent Act of 1952 (35 U.S.C. 266); and I hereby subscribe my name to the attached specification and claims, oath, power of attorney, grant, and this petition, this 2nd. day of June 1962.

Inventor John P. Doe
First name Middle initial Last name

Post Office Address 1234 Main Street
Philadelphia, Pa.

State of Pennsylvania) SS
)
County of Philadelphia)

Before me personally appeared John P. Doe
to me known to be the person described in the above application for patent, who signed the foregoing instrument in my presence, and made oath before me to the allegations set forth therein as being under oath, on the day and year aforesaid.

SEAL

James Lap
Notary Public

This form may be executed only when attached to a complete application as the last page thereof.

*See Chapter 2, para. 26.

APPENDIX VB

JOINT

Oath, Power of Attornev, Petition

Being duly sworn, I, John P. Doe depose and say that I am a citizen of The United States residing ~~at 1234 Main~~ St., Philadelphia; that I have read the attached specification and claims and I verily believe, I, with

Richard R. Moe

am one of the original, first and joint inventors of the invention in

Incenidary Bullet

described and claimed therein; that I do not know and do not believe that this invention was ever known or used before our invention thereof, or patented or described in any printed publication in any country before our invention thereof, or more than one year prior to this application, or in public use or on sale in the United States for more than one year prior to this application; that this invention has not been patented in any country foreign to the United States on an application filed by us or our legal representatives or assigns more than twelve months before this application; and that no application for patent on this invention has been filed by us or our representatives or assigns in any country foreign to the United States.

And I hereby join in giving irrevocable control of our application for Letters Patent to the Secretary of the Army, and appoint *_____, and whose post-office address is Department of the Army, U. S. Army Materiel Command, Washington, D.C., my attorneys or agents with full power of substitution and revocation, to prosecute this application, to transact all business in the Patent Office connected therewith, and to receive the patent.

Wherefore I pray that Letters Patent be granted to us for the invention described and claimed in the attached specification and claims, without payment of fees, pursuant to the provisions of Section 266 of the Patent Act of 1952 (35 U.S.C. 266); and I hereby subscribe my name to the attached specification and claims, oath, power of attorney, and this petition, this 2nd day of June 1962.

Inventor John P. Doe
First name Middle initial Last name

Post Office Address 1234 Main Street
Philadelphia, Pa.

State of Pennsylvania) SS
County of Philadelphia)

Before me personally appeared John P. Doe
to me known to be the person described in the above application for patent who signed the foregoing instrument in my presence] and made oath before me to the allegations set forth therein as being under oath, on the day and year aforesaid.

SEAL

James Fax
Notary Public

This form may be executed only when attached to a complete application as the last page thereof.

*See Chapter 2, para. 26.

Approved Single Sipnature Form
Joint Inventors

APPENDIX VIA

LICENSE
(Government Employee)

Application for: Incendiary Bullet
(Short Title of Invention)

Inventor(s): John P. Doe Richard R. Moe

AMC Case No: 21-62 Date Oath was Executed: 2 June 1962

*Serial No: *Filing Date
(*Data not known at Execution may be added for better identification)

The undersigned inventor(s), having made the invention(s) covered by the above-identified patent application under such circumstances as to justly and lawfully entitle to Government of the United States to have the hereinafter recited right and license; and the United States Government, as represented by the Secretary of the Army, having agreed that the application be filed under the provisions of Section *266* of the Patent Act of 1952 (35 U.S.C. *266)* and that the preparation, filing and prosecution of the application be undertaken by the Government of the United States;

NOW, THEREFORE, in consideration of the premises the undersigned inventor(s) hereby grant(s) to the United States of America, as represented by the Secretary of the Army, his successors in office and designees:

ONE: irrevocable control of the prosecution of the said application and any divisions and continuations thereof, as well as any applications for reissue of any patents issued thereon, including the power to conduct and make adjustments and settlements of existing or potential interferences in which the above-identified application and all patents resulting therefrom may become involved, said power to embody the right to grant royalty-free, non-exclusive licenses necessary to accomplish said adjustments and settlements;

TWO: an irrevocable, royalty-free, non-exclusive license, directly or indirectly, to make, use and dispose of, in accordance with law, any and all inventions covered by said application, said license to extend throughout the world and to be effective for the full term for which Letters Patent, domestic or foreign, or any reissues or extensions thereof, are or may be granted thereon; and agree(s)

THREE: to perform, upon lawful request, all affirmative acts required to obtain the grant of Letters Patent for any and all inventions covered by said application and to render effective all other rights herein granted to the United States of America; and to assign

FOUR: the entire right, title and interest in any and all inventions covered by the said application in any foreign country in which the Government of the United States elects to file an application for patent embodying any or all of said inventions, within six *(6)* months of the date of filing of the application in the United States.

Signature of Inventor: John P. Doe
First Name Initial Last Name

Address: 1234 Main St., Philadelphia Philadelphia Pennsylvania
Locality County State

Date: 2 June 1962 John P. Doe
Inventor's Typed Name

Page 1 of 2

License (Cont'd)
(Government Employee) *Serial No. _____

State of Pennsylvania, county of Philadelphia,

On the above date John P. Doe known to me to be the individual described in and who executed the foregoing instrument duly appeared before me and acknowledged to me that he executed the same as his own free act and deed.

SEAL

James Lax
Signature of Notary

My Commission Expires on 7 December 1963

Application for: Incendiary Bullet

Inventor(s): John P. Doe, Richard R. Moe

Signature of Inventor: Richard R. Moe
First Name Initial Last Name

Address: 4444 Main St., Philadelphia Philadelphia Pennsylvania
Locality County State

Date: 2 June 1962

Richard R. Moe
Inventor's Typed Name

* * * * * * * * *

State of Pennsylvania; County of Philadelphia;

On the above date Richard R. Moe known to me to be the individual described in and who executed the foregoing instrument duly appeared before me and acknowledged to me that he executed the same as his own free act and deed.

SEAL

James Lax
Signature of Notary

My Commission Expires on 7 December 1963

Page 2 of 2

APPENDIX VIB

ASSIGNMENT
(Government Employee)

Application for: Incendiary Bullet

Inventor(s): John P. Doe Richard R. Moe

*Serial No.: _____ Application Executed: 2 June 1962

*Filing Date: _____

AMC Case No. 21-62

The undersigned inventor(s), for a good and valuable consideration, the sufficiency of which is hereby acknowledged:

1. Assign(s) to the Government of the United States, as represented by the Secretary of the Army, the entire right, title and interest in any inventions made by him (them) which are disclosed in the above-identified patent application and in any continuation, division or extension of said application in the United States and in all foreign countries except those in which the Government of the United States, within six (6) months of the filing date of the domestic application either elects not to file or fails to file a patent application.

2. Grants to the Government of the United States an irrevocable, royalty-free, nonexclusive license to make, use and dispose of any material embodying such inventions in the excepted foreign countries.

3. Agrees to provide any information within his (their) knowledge and to execute any documents essential to the prosecution of (including recording of title to, and interferences involving) patent applications and patents covering any inventions made by him (them) which are disclosed in the above application and any continuation, division or extension of said application.

(*Data not known at execution may be added for better identification.)

(If more than one inventor has signed this instrument, the inventors shall be deemed to have executed this instrument jointly and severally.)

Signature of Inventor: John P. Doe
First Name Initial Last Name

Address: 1234 Main St., Philadelphia Philadelphia Pennsylvania
Locality County State

Date: 2 June 1962 John P. Doe
Inventor's Typed Name

****

Page 1 of

Assignment (Cont'd)
(Government Employee)

State of Pennsylvania)
)
County of Philadelphia)

On the above date John P. Doe known to me to be the individual described in and who executed the foregoing instrument duly appeared before me and acknowledged to me that he executed the same as his own free act and deed.

(SEAL) James Lax
Signature of Notary

My Commission Expires on 7 December 1963

Application for: Incendiary Bullet

Inventor(s): John P. Doe Richard R. Moe

Signature of Inventor: Richard R. Moe
First Name Initial Last Name

Address: 4444 Main St., Philadelphia Philadelphia Pennsylvania
Locality County State

Date: 2 June 1962 Richard R. Moe
Inventor's Typed Name

* * * * * * * * * * * *

State of Pennsylvania)
)
County of Philadelphia)

On the above date Richard R. Moe known to me to be the individual described in and who executed the foregoing instrument duly appeared before me and acknowledged to me that he executed the same as his own free act and deed.

SEAL James Lax
Signature of Notary

My Commission Expires on 7 December 1963

APPENDIX VIIA

LICENSE
(Contractor)

Application for: Improvement in Automatic Weapons

Inventor(s): John J. Smith

*Serial No. : _____ *Filing Date: _____ Execution Date: 15 June1962

Contractor: Unique Research Institute

Contract No. : DA-36-038-AMC-001

*(Data Not Known At Execution Time May Be Added Later For Better Identification)

WHEREAS, under the terms of the above-identified Government contract the Contractor agreed, inter alia, to grant to the Government certain rights under inventions and/or discoveries made and/or reduced to practice in the performance of said contract; and

WHEREAS, the above-identified patent application discloses invention(s) within the purview of said rights agreed to be granted by the Contractor to the Government; and

WHEREAS, the Government desires that the license rights provided for by said contract in and to said invention(s) be confirmed; and

WHEREAS, Contractor warrants that it has the right to grant such a license by virtue of assignment executed and recorded in the U. S. Patent Office as follows:

*Reel _____ Frame _____ Recording Date _____

NOW, THEREFORE, in consideration of the premises and other good and sufficient consideration to Contractor, the receipt of which is hereby acknowledged, and without limiting any right or license in favor of the Government arising by operation of law, the Contractor agrees to and does hereby grant and convey to the Government of the United States of America, as represented by the Secretary of the Army and his successors in office, an irrevocable, nonexclusive, non-transferable, and royalty-free license to practice, and cause to be practiced for the Government, throughout the world, in the manufacture, use and disposition according to law, any article, material, or method embodied in any and all of the inventions (within the scope of the said certain rights) disclosed in the above-identified patent application, as well as in any and all Letters Patent, for the full term or terms thereof, which may eventuate from or be based thereon.

No license granted herein shall convey any right to the Government to manufacture, have manufactured, or use any of the said inventions for the purpose of providing services or supplies to the general public in competition with the Contractor or the Contractor's commercial licenses in the licensed fields.

Nothing contained herein shall be deemed to grant, by implication or otherwise, any license to the Government under any invention other than those covered by the aforesaid application for patent.

Page 1 of 2

License (cont'd)
(Contractor)
Application for: Improvement in Automatic Weapons

Inventor(s): John J. Smith

Serial No. : _____ Filing Date: _____ Execution Date: 15 June 1962

Contractor: Unique Research Institute

Contract No.: DA-36-038-AMC-001

The acceptance of this license shall not constitute any acknowledgment by the Government of the validity or scope of any patent.

IN WITNESS WHEREOF, Licensor has caused these presents to be signed by its duly authorized officers and its seal to be affixed thereto as of the 15th day of June 1962.

Witnessed by:

Mary Smith
Mary Smith
49 Main St., Baltimore, Md.
(Address)

Tom Jones
Tom Jones
50 Main St., Baltimore, Md.
(Address)

Unique Research Institute
Licensor (Contractor)

By: J. P. Carter
(Title)
J. P. Carter, President
440 Water Road
(Business Address)
Baltimore, Maryland

I, Richard Black certify that I am the Secretary of Unique Research Institute named as Licensor herein; that J. P. Carter who signed this License on behalf of Licensor was then President of said Contractor; that said License was duly signed for and in behalf of said Contractor by authority of its governing body, and is within the scope of its authorized powers.

SEAL

Richard Black

APPENDIX VIIB

ASSIGNMENT

WHEREAS, under the terms of Contract No. DA-36-038-AMC-001 between the United States of America (hereinafter called the Government), and Unique Research Institute (hereinafter called the Contractor), agreed inter alia, to deliver such duly executed instruments of assignment as are necessary to vest in the Government, the sole and exclusive ownership and right to apply for, and prosecute patent applications covering inventions and/or discoveries made and/or reduced to practice in the performance of said contract; and

WHEREAS, the invention(s) disclosed in the following is (are) an invention(s) within the purview of said contract:

*Serial No.	*Filed	Title	Inventor(s)
		Improvement in Automatic Weapons	John J. Smith

; and

WHEREAS, Contractor, under the provisions of said contract does affirm that the invention(s) disclosed and claimed in said application(s) is (are) an invention(s) made during the performance of said contract and warrants that it has the right to grant the within assignment by virtue of an assignment to Contractor executed on the 11th day of June 1962; and recorded in the United States Patent Office, at _____, on the _____ day of _____ 19____.*

*(For better identification, data not known at time of execution may be added.)

NOW, THEREFORE, in consideration of these premises and other good and sufficient consideration, the receipt of which is hereby acknowledged, the Contractor agrees to and does hereby sell, assign, and transfer unto the Government, as represented by the Secretary of the Army and his successors in office, the entire right, title and interest in and to said invention(s), and in and to any and all Letters Patent wherever they may be granted thereon, as well as divisions, continuations, reissues, and extensions of said Letters Patent, the same to be held and enjoyed by the said Government of the United States to the full end of the term or terms, for which said Letters Patent are granted, as fully and entirely as the same would have been held or enjoyed by Contractor had this assignment not been made, subject only to a reservation to Contractor of a non-exclusive and royalty-free license thereunder, which reserved license shall be assignable only to the successor of that part of the Contractor's business to which said license is appurtenant.

The Contractor agrees to make, execute and deliver unto the Government, represented as aforesaid, any and all papers, documents, affidavits, applications, statements, and other instruments, in such usual or other form, terms, and contents as may be required in or incident to the prosecution or conduct of any and all applications

Assignment (cont'd)

arising under said invention(s) before as well as after the issuance of any Letters Patent thereon, *or* in the adjustment or settlement of any interferences or other actions or proceedings that said applications may encounter or in which they may become involved, and the Contractor agrees that it will aid the Government in every way in protecting the invention(s) as may be requested by the Government represented as aforesaid, except that all proper expenses arising through extending such assistance will be paid by the Government.

IN WITNESS WHEREOF, Contractor has caused these presents to be signed by its duly authorized officers and its seal to be affixed thereto as of the day and year appearing below.

Executed this 15th day of June 19 62.

WITNESSES:

Mary Smith
Mary Smith
49 Main St., Baltimore, Md.
(Address)

Tom Jones
Tom Jones
50 Main St., Baltimore, Md.
(Address)

Unique Research Institute
(Contractor)

BY: J. P. Carter
J. P. Carter (Title) President

440 Water Road
(Business Address)
Baltimore, Md.

I, Richard Black certify that I am the Secretary of Unique Research Institute named as Contractor herein; that J. P. Carter who signed this assignment on behalf of Contractor was then President of said Contractor; that said assignment was duly signed for and on behalf of said Contractor by authority of its governing body and is within the scope of its authorized powers.

Richard Black

SEAL

Secretary
Official Title

APPENDIX VIIC

ASSIGNMENT
(From Contractor-Employee to Contractor)
and
(From Contractor to Government)

Application for: Improvements in Automatic Weapons
Short Title of Invention

Inventor(s): John J. Smith

*Serial No. : *Filing Date: Date Oath Executed: 6/1/62

Contractor: Unique Research Institute

Contract No. : DA-36-038-AMC-001

Subcontractor: None

*(Data Not Known At Execution Time May Be Added Later For Better Identification.)

WHEREAS, under the terms of the above-identified contract with the United States Government the Contractor** agreed, inter alia, to grant to the Government certain rights under inventions and/or discoveries conceived or first actually reduced to practice in the performance of said contract; and

WHEREAS, the above-identified patent application discloses invention(s) within the purview of said rights agreed to be granted by the Contractor to the Government; and

WHEREAS, the Government desires that the assignment rights provided for by said contract in and to said invention(s) be confirmed; and

WHEREAS, under the employment contract, agreement or arrangement the Contractor-employer is entitled to an assignment in and to certain inventions made by the inventor(s) as part of his (their) duties as employee(s) of the Contractor; and

WHEREAS, the above-identified invention(s) was/were made in the performance of the above-identified contract and under such circumstances as to entitle the Government to an assignment of the entire right, title and interest in and to said invention(s) and any and all applications for Letters Patent thereon and in and to any and all Letters Patent granted on said application, subject only *to* a nonexclusive, royalty-free license to Contractor, said license *to* be non-transferable except to the successor of that part of the Contractor's business to which said license is appurtenant.

NOW, THEREFORE, be it known that for and in consideration of these premises and for other good and sufficient consideration, the receipt of which is hereby acknowledged

**(The Terms Contract and Contractor Shall Include Subcontract and Subcontractor, If Applicable, Wherever They Occur.)

Assignment (cont'd)

Prime Contractor and Number: Unique Research Institute DA-36-038-AMC-001

Subcontractor: None

Application for: Improvements in Automatic Weapons

Inventor(s): John J. Smith

Serial No.: _____ Filing Date: _____

I (we), the inventor(s) do sell, assign, and transfer to the Contractor-employer the entire right, title and interest in and to said invention(s) and patent application and in and to all Letters Patent wherever they may be granted thereon, as well as divisions, continuations, reissues, and extensions of said application and Letters Patent, the same to be held and enjoyed by the said Contractor-employer to the full end of the term or terms for which Letters Patent are or may be granted, as fully and entirely as the same would have been held or enjoyed by me (us) had this assignment not been made.

I (We) agree to make, execute and deliver unto the Contractor-employer or its assignee any and all papers, documents, affidavits, applications, statements, and other instruments in such usual or other form, terms and contents as may be required, in or incident to the prosecution or conduct of any and all applications, arising under said invention(s) before as well as after the issuance of any Letters Patent thereon, or in the adjustment or settlement of any interferences or other actions or proceedings that said applications may encounter or in which they may become involved, and I (we) agree that I (we) will aid the Contractor-employer or its assignee in any way in protecting the invention as may be requested by the Contractor-employer or its assignee, except that all proper expenses arising through extending such assistance will be paid by the Contractor-employer or its assignee.

IN WITNESS WHEREOF, I (we) have set my (our) hand this 11th day of June 19 62.

WITNESSED BY:

Mary Smith
Mary Smith
49 Main St., Baltimore, Md.
Address

Tom Jones
Tom Jones
50 Main St., Baltimore, Md.
Address

John J. Smith
John J. Smith
Inventor

Inventor

Page 2 of 4

Assignment (cont'd)

Prime Contractor and Number: Unique Research Institute DA-36-038-AMC-001

Subcontractor: None

Application for: Improvements in Automatic Weapons

Inventor(s): John J. Smith

Serial No. : _____ Filing Date: _____

REASSIGNMENT

The above-identified Contractor for and in consideration of these premises and for other good and sufficient consideration, the receipt of which is hereby acknowledged, by these presents, does sell, reassign, and transfer to the United States Government, as represented by the Secretary of the Army and his successors in office, the entire right, title and interest in and to said invention(s) and patent application and in and to any and all Letters Patent wherever they may be granted thereon, as well as divisions, continuations, reissues, and extensions of said application and Letters Patent, the same to be held and enjoyed by the said Government of the United States, to the full end of the term or terms for which Letters Patent are or may be granted, as fully and entirely as the same would have been held or enjoyed by the Contractor had the reassignment not been made, subject only to the license as above recited, which license is hereby reserved.

The Contractor agrees to make, execute and deliver unto the Government, or to require the employee-inventor(s) to make, execute and deliver unto the Government any and all papers, documents, affidavits, applications, statements, and other instruments in such usual or other form, terms and contents as may be required, in or incident to the prosecution or conduct of any and all applications, arising under said invention(s) before as well as after the issuance of any Letters Patent thereon, or in the adjustment or settlement of any interferences or other actions or proceedings that said applications may encounter or in which they may become involved, and the Contractor agrees that it will aid the Government of the United States and/or require the employee-inventor(s) to aid the Government in every way in protecting the invention(s) as may be requested by the Government, except that all proper expenses arising through extending such assistance will be paid by the Government.

IN WITNESS WHEREOF, Assignor has caused these presents to be signed by its fully authorized officers and its seal to be affixed thereto as of the 11th day of June 19 62.

Assignment (cont'd)

Prime Contractor and Number: Unique Research Institute DA-36-038-AMC-001

Subcontractor: None

Application for: Improvements in Automatic Weapons

Inventor(s): John J. Smith

Serial No. : _____ Filing Date: _____

WITNESSED BY:

Mary Smith
Mary Smith
49 Main St., Baltimore, Md.
Address

Tom Jones
Tom Jones
50 Main St., Baltimore, Md.
Address

Unique Research Institute
Assignor (Contractor or Subcontractor)
By: J. P. Carter
J. P. Carter (Title) President
440 Water Road
(Business Address)
Baltimore, Md.

I, Richard Black of Unique Research Institute, certify that I am the Secretary, named as Assignor herein; that J. P. Carter who signed this instrument on behalf of Assignor was then President of said Contractor; that said instrument was duly signed for and in behalf of said Contractor by authority of its governing body, and is within the scope of its authorized powers.

SEAL

Richard Black
Richard Black

APPENDIX VIII

EXECUTIVE ORDER 10096

PROVIDING FOR A UNIFORM PATENT POLICY FOR THE GOVERNMENT WITH RESPECT TO INVENTIONS MADE BY GOVERNMENT EMPLOYEES AND FOR THE ADMINISTRATION OF SUCH POLICY

WHEREAS inventive advances in scientific and technological fields frequently result from governmental activities carried on by Government employees; and

WHEREAS the Government of the United States is expending large sums of money annually for the conduct of these activities; and

WHEREAS these advances constitute a vast national resource; and

WHEREAS it is fitting and proper that the inventive product of functions of the Government, carried out by Government employees, should be available to the Government; and

WHEREAS the rights of Government employees in their inventions should be recognized in appropriate instances; and

WHEREAS the carrying out of the policy of this order requires appropriate administrative arrangements:

NOW, THEREFORE, by virtue of the authority vested in me by the Constitution and statutes, and as President of the United States and Commander in Chief of the armed forces of the United States, in the interest of the establishment and operation of a uniform patent policy for the Government with respect to inventions made by Government employees, it is hereby ordered as follows:

1. The following basic policy is established for all Government agencies with respect to inventions hereafter made by any Government employee:

(a) The Government shall obtain the entire right, title and interest in and to all inventions made by any Government employee (1) during working hours, or (2) with a contribution by the Government of facilities, equipment, materials, funds, or information, or of time or services of other Government employees on official duty, or (3) which bear a direct relation to or are made in consequence of the official duties of the inventor.

(b) In any case where the contribution of the Government, as measured by any one or more of the criteria set forth in paragraph (a) last above, to the invention is insufficient equitably to justify a requirement of assignment to the Government of the entire right, title and interest to such invention, or in any case where the Government has insufficient interest in an invention to obtain entire right, title and interest therein (although the Government could obtain same under paragraph (a), above), the Government agency concerned, subject to the approval of the Chairman of the Government Patents Board (provided for in paragraph 3 of this order and hereinafter referred to as the Chairman), shall leave title to such invention in the employee, subject, however, to the reservation to the Government of a non-exclusive, irrevocable, royalty-free license in the invention with power to grant licenses for all governmental purposes, such reservation, in the terms thereof, to appear, where practicable, in any patent, domestic or foreign, which may issue on such invention.

(continued on next page)

(c) In applying the provisions of paragraphs (a) and (b), above, to the facts and circumstances relating to the making of any particular invention, it shall be presumed that an invention made by an employee who is employed or assigned (i) to invent or improve or perfect any art, machine, manufacture, or composition of matter, (ii) to conduct or perform research, development work, or both, (iii) to supervise, direct, coordinate, or review Government financed or conducted research, development work, or both, or (iv) to act in a liaison capacity among governmental or nongovernmental agencies or individuals engaged in such work, or made by an employee included within any other category of employees specified by regulations issued pursuant to section 4 (b) hereof, falls within the provisions of paragraph (a), above, and it shall be presumed that any invention made by any other employee falls within the provisions of paragraph (b), above. Either presumption may be rebutted by the facts or circumstances attendant upon the conditions under which any particular invention is made and, notwithstanding the foregoing, shall not preclude a determination that the invention falls within the provisions of paragraph (d) next below.

(d) In any case wherein the Government neither (1) pursuant to the provisions of paragraph (a) above, obtains entire right, title, and interest in and to an invention nor (2) pursuant to the provisions of paragraph (b) above, reserves a non-exclusive, irrevocable, royalty-free license in the invention with power to grant licenses for all governmental purposes, the Government shall leave the entire right, title, and interest in and to the invention in the Government employee, subject to law.

(e) Actions taken, and rights acquired, under the foregoing provisions of this section, shall be reported to the Chairman in accordance with procedures established by him.

2. Subject to considerations of national security, or public health, safety, or welfare, the following basic policy is established for the collection, and dissemination to the public, of information concerning inventions resulting from Government research and development activities:

(a) When an invention is made under circumstances defined in paragraph 1(a) of this order giving the United States the right to title thereto, the Government agency concerned shall either prepare and file an application for patent therefor in the United States Patent Office or make a full disclosure of the invention promptly to the Chairman; who may, if he determines the Government interest so requires, cause application for patent to be filed or cause the invention to be fully disclosed by publication thereof: Provided, however, That, consistent with present practice of the Department of Agriculture, no application for patent shall, without the approval of the Secretary of Agriculture. be filed in respect of any variety of plant invented by any employee of that Department.

(b) Under arrangements made and policies adopted by the Chairman, all inventions or rights therein, including licenses, owned or controlled by the United States or any Government agency shall be indexed, and copies, summaries, analyses and abstracts thereof shall be maintained and made available to all Government agencies and to public libraries, universities, trade associations, scientists and scientific groups, industrial and commercial organizations, and all other interested groups of persons.

(continued on next page)

3. (a) A Government Patents Board is established consisting of a Chairman of the Government Patents Board, who shall be appointed by the President, and one representative from each of the following:

Department of Agriculture
Department of Commerce
Department of the Interior
Department of Justice
Department of State
Department of Defense
Civil Service Commission
Federal Security Agency
National Advisory Committee for Aeronautics
General Services Administration

Each such representative, together with an alternate, shall be designated by the head of the agency concerned.

(b) The Government Patents Board shall advise and confer with the Chairman concerning the operation of those aspects of the Government's patent policy which are affected by the provisions of this order or of Executive Order No. 9865, and suggest modifications or improvements where necessary.

(c) Consonant with law, the agencies referred to in paragraph 3(a) hereof shall as may be necessary for the purpose of effectuating this order furnish assistance to the Board in accordance with section 214 of the Independent Offices Appropriation Act, 1946, 59 Stat. 134, 31 U.S.C. 691. The Department of Commerce shall provide necessary office accommodations and facilities for the use of the Board and the Chairman.

(d) The Chairman shall establish such committees and other working groups as may be required to advise or assist him in the performance of any of his functions.

(e) The Chairman of the Government Patents Board and the Chairman of the Interdepartmental Committee on Scientific Research and Development (provided for by Executive Order No. 9912 of December 24, 1947) shall establish and maintain such mutual consultation as will effect the proper coordination of affairs of common concern.

4. With a view to obtaining uniform application of the policies set out in this order and uniform operations thereunder, the Chairman is authorized and directed:

(a) To consult and advise with Government agencies concerning the application and operation of the policies outlined herein;

(b) After consultation with the Government Patents Board, to formulate and submit to the President for approval such proposed rules and regulations as may be necessary or desirable to implement and effectuate the aforesaid policies, together with the recommendations of the Government Patents Board thereon;

(c) To submit annually a report to the President concerning the operation of such policies, and from time to time such recommendations for modification thereof as may be deemed desirable;

(continued on next page)

(d) To determine with finality any controversies or disputes between any Government agency and its employees, to the extent submitted by any party to the dispute, concerning the ownership of inventions made by such employees or rights therein; and

(e) To perform such other or further functions or duties as may from time to time be prescribed by the President or by statute.

5. The function and duties of the Secretary of Commerce and the Department of Commerce under the provisions of Executive Order No. 9865 of June 14, 1947 are hereby transferred to the Chairman and the whole or any part of such functions and duties may be delegated by him to any Government agency or officer: Provided, That said Executive Order No. 9865 shall not be deemed to be amended or affected by any provision of this Executive order other than this paragraph 5.

6. Each Government agency shall take all steps appropriate to effectuate this order, including the promulgation of necessary regulations which shall not be inconsistent with this order or with regulations issued pursuant to paragraph 4(b) hereof.

7. As used in this Executive order, the next stated terms, in singular and plural, are defined as follows for the purposes hereof:

(a) "Government agency" includes any executive department and any independent commission, board, office, agency, authority, *or* other establishment of the Executive Branch of the Government of the United States (including any such independent regulatory commission or board, any such wholly-owned corporation, and the Smithsonian Institution), but excludes the Atomic Energy Commission.

(b) "Government employee" includes any officer or employee, civilian or military, of any Government agency, except such part-time consultants or employees as may be excluded by regulations promulgated pursuant to paragraph 4(b) hereof.

(c) "Invention" includes any art, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States.

THE WHITE HOUSE,
January 23, 1950.

HARRY S. TRUMAN

APPENDIX IX

EXECUTIVE ORDER 10930

ABOLISHING THE GOVERNMENT PATENTS BOARD AND PROVIDING FOR THE PERFORMANCE OF ITS FUNCTIONS

By virtue of the authority vested in me as President of the United States, it is ordered as follows:

SECTION 1. The Government Patents Board, established by section 3(a) of Executive Order No. 10096 of January 23, 1950, and all positions established thereunder or pursuant thereto are hereby abolished.

SECTION 2. All functions of the Government Patents Board and of the Chairman thereof under the said Executive Order No. 10096, except the functions of conference and consultation between the Board and the Chairman, are hereby transferred to the Secretary of Commerce, who may provide for the performance of such transferred functions by such officer, employee, or agency of the Department of Commerce as he may designate.

SECTION 3. The Secretary of Commerce shall make such provision as may be necessary and consonant with law for the disposition or transfer of property, personnel, records, and funds of the Government Patents Board.

SECTION 4. Except to the extent that they may be inconsistent with this order, all determinations, regulations, rules, rulings, orders, and other actions made or issued by the Government Patents Board, or by any Government agency with respect to any function transferred by this order, shall continue in full force and effect until amended, modified, or revoked by appropriate authority.

SECTION 5. Subsections (a) and (c) of section 3 of Executive Order No. 10096 are hereby revoked, and all other provisions of that order are hereby amended to the extent that they are inconsistent with the provisions of this order.

THE WHITE HOUSE,
March 24, 1961.

JOHN F. KENNEDY

(F.R. Doc. 61-2767; Filed, Mar. 27, 1961; 10:10 a.m.) 2583

APPENDIX X

SNVENTION RIGHTS QUESTIONNAIRE

(DA Memo 825-1)

INSTRUCTIONS

Under Executive Order 10096, 23 January 1950, and AR 825-20, whenever an invention is made by an officer, enlisted man or civilian employee of the Depariment of the Army, it is necessary to determine the rights in the invention as between the Government and the inventor. There are three ways in which rights may be determined: (1) the inventor may be entitled to all rights and the Government to none (and hence the inventor need sign no document giving any rights to the Government); (2) the Government may be entitled to a license permitting it to use and practice the invention and the inventor entitled to all other rights (and hence the inventor signs a license to the Government); (3) the Government may be entitled to all rights and the inventor to none (and hence the inventor signs an assignment to the Government).

Separate and distinct from the determination of rights, and even though it may appear that the inventor is entitled to all rights in the invention, the inventor may sign a license permitting the Government to use and practice the invention in return for which the Government will prosecute an application for a patent on the invention at no expense to the inventor, provided the Government is sufficiently interested in the invention.

If the inventor desires voluntarily to assign all rights in the invention to the Government, he may complete the answer to question 1 of this questionnave and sign the statement following question 1. The remaining questions then need not be answered.

If the inventor does not desire to voluntarily assign all rights in the invention to the Government, it is necessary that all questions be answered completely. The determination of rights in the invention depends upon the facts and circumstances under which the invention was made. In almost every case, a failure to provide sufficient information works to the disadvantage of the inventor. If additional space is needed to fully answer any question, an attached sheet should be used. Many questions may be answered by a check mark; however, every question must be answered even if the appropriate answer is "No", "None", or "NA" *(not applicable)*. Print or type all answers.

NOTE: Items 1 through 11 are to be completed by the inventor. Items 12 through 20 are to be completed by the immediate supervisor of the inventor at the time the invention was made.

1. BASIC DATA

a. BRIEF TITLE OF INVENTION	b. NAME OF INVENTOR
Hydraulic Launcher Stabilizer	John J. Doe
c. JOB TITLE AT TIME INVENTION WAS MADE	**d. GRADE AT TIME INVENTION WAS MADE**
Ordnance Engineer	GS-13

e. COMPLETE NAME OF ORGANIZATION AT TIME INVENTION WAS MADE *(including, as applicable, unit, section, branch, division, department,* laboratory. *post, camp, station, branch of Army)*

Mechanical Shops, Hydraulic Section, Rock Island Arsenal, Rock Island, Ill.

I DESIRE TO ASSIGN TO THE UNITED STATES GOVERNMENT ~~THE EXCLUSIVE RIGHT, TITLE AND INTEREST IN AND TO~~ THE ABOVE IDENTIFIED INVENTION.. a license to use and practice

DATE	SIGNATURE OF INVENTOR
23 July 1962	John P. Doe

MAKING OF THE INVENTION

NOTE: The making of an invention generally involves its conception or discovery followed by a series of acts which establish the correctness or operativeness of the idea. Depending upon the nature of the invention, these acts may involve the making of sketches, drawings, written descriptions, the making and testing of a model, the carrying out of a process, or the production of a composition of matter.

2. BEFORE THE INVENTION WAS PHYSICALLY TRIED OUT OR PRODUCED IN MODEL OR WORKING FORM OR A COMPOSITION OF MATTER PRODUCED, WERE THE ESSENTIAL ELEMENTS OF THE INVENTION IN ITS OPERABLE AND PRACTICABLE FORM FULLY DISCLOSED IN WRITTEN DESCRIPTION, SKETCHES OR DRAWINGS IN SUCH A MANNER THAT THE INVENTION COULD BE PRODUCED OR PRACTICED FROM THEM WITHOUT THE EXERCISE OF ANY FURTHER INVENTIVE SKILL BY A PERSON WHO IS SKILLED IN THE FIELD TO WHICH THE INVENTION RELATES? ☐ YES ☒ NO. IF THE ANSWER IS "YES", GIVE THE DATE SUCH DESCRIPTIONS, SKETCHES OR DRAWINGS WERE COMPLETED.

3. WAS A MODEL MADE, OR, IF THE INVENTION IS A PROCESS, WAS THE PROCESS TRIED OUT; OR, IF THE INVENTION IS A COMPOSITION OF MATTER, WAS A COMPOSITION PRODUCED? ☒ YES ☐ NO. IF THE ANSWER IS "YES", GIVE THE DATE SUCH ACTION TOOK PLACE.

Model made 22 December 1961

4. IF A MODEL WAS MADE AND TESTED, A COMPOSITION PRODUCED OR A PROCESS CARRIED OUT, WAS IT DONE BECAUSE: (a) IT WAS DESIRED TO TEST THE OPERABILITY OR PRACTICABILITY OF THE INVENTION? ☒ YES ☐ NO; (b) IT WAS DESIRED TO TEST THE USEFULNESS OF THE INVENTION TO THE GOVERNMENT? ☐ YES ☐ NO. (c) IF IT WAS DONE FOR SOME OTHER REASON STATE THAT REASON.

5. APPROXIMATELY HOW MUCH TOTAL TIME WAS SPENT BY YOU PERSONALLY IN MAKING THE INVENTION?	OWN TIME *(outside working hours)* IN HOURS	GOVERNMENT TIME *(working hours including* paid overtime) IN HOURS
	80 hours	None

6. EXPLAIN BRIEFLY THE USE, IF ANY, OF THE FOLLOWING ITEMS IN CONNECTION WITH THE MAKING OF THE INVENTION

a. THE USE OF GOVERNMENT FACILITIES *(buildings, such* as *laboratories, shops,* or *office building but* not *buildings such as barracks* or *recreation* buildings).

None

Invention Rights Questionnaire (cont'd)

b. THE USE OF GOVERNMENT EQUIPMENT *(such as instruments, tools or machinery).*

None

c. THE USE OF GOVERNMENT MATERIALS *(supplies, reagents, parts, or any other materials; if scrap, waste, or salvage materials were used, so state; give estimated monetary value of materials consumed).*

None

d. USE OF GOVERNMENT FUNDS *(other than salaries and wages, and Government contributions covered under other parts of this question)* WHICH WERE ACTUALLY OBLIGATED OR EXPENDED FOR THE PURPOSE OF MAKING THE INVENTION.

None

e CONTRIBUTION BY THE GOVERNMENT OF INFORMATION *(information which was available to you by reason of your official duties and not otherwise)*

Government Handbooks, charts, tables, etc., pertaining to hydraulics, belonging to Rock Island Arsenal, were used as reference material.

f. CONTRIBUTION OF TIME OR SERVICES OF OTHER GOVERNMENT EMPLOYEES DURING NORMAL OR OVERTIME WORKING HOURS *(state approximate number of hours and type of assistance).*

None

RELATIONSHIP BETWEEN THE INVENTION AND THE INVENTOR'S DUTIES

7. BRIEFLY, WHAT PROMPTED YOU TO MAKE THE INSTANT INVENTION: OR HOW DID YOU GET THE IDEA FOR THE INVENTION?

While observing films on the firing of the Little John rocket which depicted the crew digging for level location, it occurred to me that self-adjusting hydraulic supports to the launcher would eliminate the digging and enable the crew to set up faster.

8. BRIEFLY AND IN BROAD TERMS, WHAT IS THE INVENTION SUPPOSED TO ACCOMPLISH?

At firing rocket launchers must be level and well-[illegible] on the terrain. This invention enables the crew to quickly set up the launcher without leveling the terrain.

9. WERE YOU EMPLOYED OR ASSIGNED

a. TO INVENT OR IMPROVE OR PERFECT ANY PROCESS, MACHINE, MANUFACTURE, DESIGN OR COMPOSITION OF MATTER? [X] YES [ ] NO.

b TO CONDUCT OR PERFORM RESEARCH OR DEVELOPMENT WORK? [ ] YES [ ] NO

c. TO SUPERVISE, DIRECT, COORDINATE OR REVIEW GOVERNMENT-FINANCED OR CONDUCTED RESEARCH OR DEVELOPMENT WORK? [ ] YES [ ] NO

d TO ACT IN A LIAISON CAPACITY AMONG GOVERNMENT OR NON-GOVERNMENTAL AGENCIES OR INDIVIDUALS ENGAGED IN SUCH RESEARCH OR DEVELOPMENT WORK? [ ] YES [ ] NO

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1 **APR** *58*

Invention Rights Questionnaire (cont'd)

10. DESCRIBE THE DUTIES, PROJECT, OR AREA OF WORK TO WHICH YOU WERE ASSIGNED AT THE TIME THE INVENTION WAS MADE. STATE IN SUFFICIENT DETAIL TO MAKE THEM UNDERSTANDABLE.

At the time of the invention, the undersigned was assigned to performing feasibility studies in hydraulic shock absorption of air-dropped rocket launchers and allied materiel.

11. STATE ANY FACTS OR CIRCUMSTANCES NOT COVERED IN YOUR ANSWERS ABOVE WHICH YOU BELIEVE WOULD HAVE A BEARING ON EITHER THE GOVERNMENT'S OR YOUR RIGHTS IN THE INVENTION.

All work on the model was performed in home workshop of the undersigned.

DATE	SIGNATURE OF INVENTOR
23 July 1962	John P. Doe

NOTE: Items 12 through 20 are to be completed by the supervisor.

12. AS THE INVENTOR'S SUPERVISOR AT THE TIME OF THE INVENTION, WHAT CONTACT DID YOU HAVE WITH THE INVENTOR AND TO WHAT EXTENT DID YOU HAVE ACTUAL PERSONAL KNOWLEDGE OF THE INVENTOR'S DUTIES AND THE SUBSTANCE OF HIS INVENTION?

The inventor is a member of the section which the undersigned supervises. His official duties were assigned by the undersigned. His invention was worked on during his own time.

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Page 3 of 4 Pages

Invention Rights Questionnaire (cont'd)

13. AT THE TIME THE INVENTION WAS MADE, WHAT WERE THE OFFICIAL DUTIES OF THE INVENTOR? STATE IN SUFFICIENT DETAIL TO MAKE HIS DUTIES UNDERSTANDABLE. IF IN DOUBT, SUBMIT A COPY OF THE APPLICABLE JOB DESCRIPTION OR SO MUCH OF IT AS SET9 FORTH THE PERTINENT DUTIES.

At the time of the invention the inventor was performing assigned feasibility studies on hydraulic shock absorption problems.

14. AT THE TIME THE INVENTION WAS MADE. WHAT WERE THE SPECIFIC JOB OR PROJECT ASSIGNMENTS OF THE INVENTOR WHICH RELATED TO THE INVENTION. AND WHAT WERE THEY INTENDED TO ACCOMPLISH?

5

None

15. TO THE BEST OF YOUR ABILITY, HOW WOULD YOU DESCRIBE THE RELATIONSHIP BETWEEN THE INVENTION AND THE INVENTOR'S SPECIFIC JOB OR PROJECT ASSIGNMENT MOST CLOSELY RELATED TO THE INVENTION AT THE TIME IT WAS MADE? DIRECTLY RELATED ☐ YES ☐ NO. RELATED, BUT NOT DIRECTLY ☐ YES ☐ NO. UNRELATED ☒ YES ☐ NO

16. WAS THE INVENTION THE SET GOAL OF A SPECIFIC TASK ASSIGNED TO THE INVENTOR? ☐ YES ☒ NO. *(If the answer is "Yes", questions 17 and 18 need not be answered.)*

17. ONCE THE INVENTOR HAD THE IDEA FOR THE INVENTION, WOULD HE HAVE HAD TO OBTAIN THE APPROVAL OF HIS SUPERIORS TO CONTINUE DEVELOPMENT WORK ON IT AS A GOVERNMENT PROJECT OR COULD HE HAVE PROCEEDED UNDER HIS OWN AUTHORITY? WOULD NEED APPROVAL ☒ YES ☐ NO COULD PROCEED ON HIS OWN ☐ YES ☐ NO.

18. IF THE ANSWER TO QUESTION 17 WAS THAT THE INVENTOR "WOULD NEED APPROVAL", DO YOU THINK THAT THE INVENTION WAS SO RELATED TO HIS DUTIES THAT HE WAS UNDER AN OBLIGATION TO REVEAL IT TO HIS SUPERIORS WITH THE IDEA OF OBTAINING AUTHORIZATION OR AN ASSIGNMENT TO PERFORM DEVELOPMENT WORK ON IT? ☐ YES ☒ NO

19. ARE YOU IN ACCORD WITH THE REPLIES WHICH THE INVENTOR HAS MADE TO EACH OF THE ITEMS 1 THROUGH 11 ABOVE? ☒ YES ☐ NO.

20. IF THE ANSWER TO 19 IS "NO", DISCUSS AND EXPLAIN

NA

DATE	JOB TITLE AT TIME INVENTION WAS MADE
23 July 1962	Ordnance Engineer, GS-14
TYPED OR PRINTED NAME OF SUPERVISOR	SIGNATURE OF SUPERVISOR
Boyd B. Brown	B Brown

O: Patents Division Office of the Judge Advocate General (OJAG)	FROM: Assistant General Counsel Patent Law Division Army Materiel Command
Serial No.	2. NAME OF INVENTOR John P. Doe

WAS INVENTION MADE *(Check Me)* a PRIOR TO, OR [X] SUBSEQUENT TO EXECUTIVE ORDER 10096

DESCRIPTION OF INVENTION

A hand-operated launcher stabilizer having three points of feet for ground contact, each point being controlled by a hydraulic elevating mechanism, and all elevating mechanisms being controlled by a common hydraulic cylinder. When operated, the three elevating mechanisms will elevate and stabilize the launcher in a horizontal position regardless of the terrain upon which it is placed.

a. PATENT APPLICATION NO. 00005555	b. DATE APPLICATION WAS FILED 23 April 1962

. GOVERNMENT INTEREST: [X] EXECUTED LICENSE UNDER 35 U.S.C. 266. [ ] OTHER *(Specify)*

. EMPLOYMENT STATUS OF INVENTOR

Ordnance Engineer, GS-13
Mechanical Shops, Hydraulic Section
Rock Island Arsenal
Rock Island, Illinois

DAS FORM 1 APR 58 22

REPORT OF INVENTIONS AND SUBCONTRACTS
(Pursuant *to* "Patent Rights" Contract Clause)

Form Approved
Budget Bureau No. 22-R160

INSTRUCTIONS TO CONTRACTOR

This form may be used for **INTERIM** and FINAL reports, and when used shall be completedand forwarded **to** the Contracting Officer in triplicate.

An **INTERIM** report shall be submitted at least every twelve months, commencing with the date of the contract, **and** should include only those inventions and subcontracts for which complete information has not previously been reported.

A FINAL report shall be submitted as **soon** as practicable after the work under the contract is complete and shall include (a) a summary of all inventions required by the contract to be reported, including all inventions previously reported and any inventions since the last INTERIM report; and (b) any required information for subcontracts which has **not** previously been reported.

1. NAME AND ADDRESS OF CONTRACTOR

Modern Machine Company
Lansdale, Pennsylvania

2. CONTRACT NUMBER
DA-36-038-AMC-2

3. TYPE OF REPORT (check *one*)
☐ a. INTERIM ☒ b. FINAL

SECTION I - INVENTIONS ("Subject Inventions" required *to* be reported by the "Patent Rights" clause)

4. INVENTION DATA *(check one)*

☐ a. THERE WERE NO INVENTIONS WHICH REASONABLY APPEAR TO BE PATENTABLE

☒ b. LISTED BELOW ARE INVENTIONS WHICH REASONABLY APPEAR TO BE PATENTABLE. ANY INVENTION DISCLOSURES WHICH HAVE NOT BEEN PREVIOUSLY SUBMITTED TO THE CONTRACTING OFFICER ARE ATTACHED TO THIS REPORT.

(i) NAME OF INVENTOR	(ii) TITLE OF INVENTION	(iii) PATENT APPLICATION SERIAL NUMBER AND CONTRACTOR'S DOCKET NO.	(iv) CONTRACTOR HAS FILED OR WILL FILE U.S. PATENT APPLICATION		(v) CONFIRMATORY LICENSE OR ASSIGNMENT HAS BEEN FORWARDED TO CONTRACTING OFFICER	
			YES	NO	YES	NO
Michael Scott	"Disc Removal"	Ser.No. 9568 Docket No. 301	X		X*	

* For samples of Confirmatory Licenses or Assignments, see Appendix Nos. VIIA, VIIB, and VIIC.

SECTION II - SUBCONTRACTS *(Containing a "Patent* Rights" clause)

5. LISTED BELOW IS FORMATION REQUIRED BUT NOT PREVIOUSLY REPORTED FOR SUBCONTRACTS. *(If not applicable, write "None".)*

(i) NAME AND ADDRESS OF SUBCONTRACTOR	(ii) SUBCONTRACT NUMBER	(iii) DATE CLAUSE FURNISHED TO CONTRACTING OFFICER	DATE SUBCONTRICT COMPLETED
None			

SECTION t - CERTIFICATE

DATE	NAME AND TITLE OF AUTHORIZED OFFICIAL *(Print or Type)*	SIGNATURE
9 May 1961	Benjamin Olson Vice President - Engineering	Benjamin Olson

APPENDIX XIII

OFFICE SYMBOL OR FILE REFERENCE	SUBJECT
AMCGC-L	Incentive Awards for Invention Disclosures (AMC Case No. 63-37)

Inventor(s): George Preston

Present Location: 2223 S. Main St., Falls Church, Va.

Present Position and Grade: Electronics Technician, GS-

Title of Invention: Micro Silver Solder Procedure

Brief Description of Invention: In soldering microminiature joints, one electrode is connected to the printed circuit or other conductor to which solder is to be applied. The second electrode, a thin silver wire .01 mm diam., is touched to the spot to be soldered. A surging EMF melts the wire in place.

2. Based on the above information the Inventor(s) (is) (are) eligible for a cash award in accordance with the provisions of AR 672-301, dated 4 November 1960.

Joseph Brewer
JOSEPH BREWER
Assistant General Counsel

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED. * U.S. GOVERNMENT PRINTING OFFICE : 1962 O—629168

DISPOSITION FORM

OFFICE SYMBOL OR FILE REFERENCE	SUBJECT
AMCGC-L	Incentive Awards for Inventions (AMC Case No. 63-37) (Patented Case)

TO: Incentive Awards Review Committee, AMC

FROM: General Counsel

DATE: 16 Sept 63

CMT 1

1. The Office of Assistant General Counsel for Patents has been notified of the issuance of a Patent for the following invention:

Title of Invention: Micro Silver Solder Procedure

Name of Inventor(s): George Preston

Present Location: 2223 S. Main St., Falls Church, Va.

Present Position: Electronics Technician, GS-9

Serial No. 08-022 Filed: 13 March 1963

Patent No. 54444 Issued: 21 June 1963

2. Based on the above information the inventor(s) (is) (are) eligible for a cash award in accordance with the provisions of Section 111, Paragraph 20 of AR 672-301, dated 4 November 1960.

Joseph Brewer

JOSEPH BREWER
Assistant General Counsel

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED. * U.S. GOVERNMENT PRINTING OFFICE : 1962 O—629168

APPENDIX XV

UNITED STATES ARMY MATERIEL COMMAND
HARRY DIAMOND LABORATORIES
WASHINGTON 25. D.C.

IN REPLY REFER TO:
AMXDO-LP-112-493

6 August 1963

SUBJECT: Incentive Award For Invention (Invention Disclosure) (Case No. (HDL Case No. OD- 296)

THRU: Commanding General
Army Materiel. Command
ATTN: AMCGC-PA
Washington **25,** D. C.

TO: Incentive Awards Review Committee

1. This office has evaluated the below-identified invention disclosure and has determined that the invention therein described falls within the provisions of the following paragraph of AR 672-301 dated *4* November 1960:

☐ 19b(1) (a) ☒ 19b(1) (b) ☐ 19b (2)

Inventor(s): George Preston

Present Location: 2223 S. Main St., Falls Church, Va.

Present **Position** ar. Grade: Electronics Technician, GS-9

Title of Invention: Micro Silver Solder Procedure

Brief Description of Invention: In soldering microminiature joints, one electrode is connected to the printed circuit or other conductor to which solder is to be applied. The second electrode, a thin silver wire .01 mm diam., is touched to the spot to be soldered. A surging EMF melts the wire in place.

2. **Accordingly, it is** recommended that the inventor(s) be considered for an initial cash award in accordance with the **provisions** of paragraph **20** of AR 672-301 dated *4* November 1960.

FOR **THE** COMMANDER:

John M. Smith, Jr.
JOHN M. SMITH. JR.
Chief, Legal and Patent Services Office

cc: HDL Incentive Awards Committee

CONCURRENCE:
AMCGC-PA Joseph Brewer
JOSEPH BREWER
Assistant General Counsel

APPENDIX XVI

UNITED STATES ARMY MATERIEL COMMAND
HARRY DIAMOND LABORATORIES
WASHINGTON 25, D.C.

IN REPLY REFER TO:

AMXDO-LP-112-494

6 August 1963

SUBJECT: Incentive Awards for Inventions (Allowed Case) (Case No.) (HDL Case No. OD-296)

THRU: Commanding General
Army Materiel Command
ATTN: AMCGC-PA
Washington 25, D. C.

TO: Incentive Awards Review Committee

1. This office has been notified of the issuance of a [X] Patent [ ] Notice of Allowability for the following invention:

Title of Invention: Micro Silver Solder Procedure

Inventor(s): George Preston

Present Location: 2223 S. Main St., Falls Church, Va.

Present Position and Grade: Electronics Technician, GS-9

Serial No. 08-022 Filed: 13 March 1963

Patent No. 54444 Issued: 21 June 1963

Notice of Allowability Date:

2. Based on the above information the inventor(s) is/are eligible for a cash award in accordance with the provisions of paragraph 20 of AR 672-301 dated 4 November 1960.

FOR THE COMMANDER:

John M. Smith, Jr.
JOHN M. SMITH, JR.
Chief, Legal and Patent Services Office

cc: HDL Incentive Awards Committee

CONCURRENCE:
AMCGC-PA Joseph Brewer
JOSEPH BREWER
Assistant General Counsel

* U. S. GOVERNMENT PRINTING OFFICE : 1967 O - 255-012 (7995A)

ENGINEERING DESIGN HANDBOOK SERIES

The Engineering Design Handbook Series is intended to provide a compilation of principles and fundamental data to supplement experience in assisting engineers in the evolution of new designs which will meet tactical and technical needs while also embodying satisfactory producibility and maintainability.

Listed below are the Handbooks which have been published or submitted for publication. Handbooks with publication dates prior to 1 August 1962 were published as 20-series Ordnance Corps pamphlets. AMC Circular 310-38, 19 July 1963, redesignated those publications as 706-series AMC pamphlets (i.e., ORDP 20-138 was redesignated AMCP 706-138). All new, reprinted, or revised Handbooks are being published as 706-series AMC pamphlets.

General and Miscellaneous Subjects

Number	Title
106	Elements of Armament Engineering, Part One, Sources of Energy
107	Elements of Armament Engineering, Part Two, Ballistics
108	Elements of Armament Engineering, Part Three, Weapon Systems and Components
110	Experimental Statistics, Section 1, Basic Concepts and Analysis of Measurement Data
111	Experimental Statistics, Section 2, Analysis of Enumerative and Classificatory Data
112	Experimental Statistics, Section 3, Planning and Analysis of Comparative Experiments
113	Experimental Statistics, Section 4, Special Topics
114	Experimental Statistics, Section 5, Tables
134	Maintenance Engineering Guide for Ordnance Design
135	Inventions, Patents, and Related Matters
136	Servomechanisms, Section 1, Theory
137	Servomechanisms, Section 2, Measurement and Signal Converters
138	Servomechanisms, Section 3, Amplification
139	Servomechanisms, Section 4, Power Elements and System Design
170(C)	Armor and Its Application to Vehicles (U)
252	Gun Tubes (Guns Series)
270	Propellant Actuated Devices
290(C)	Warheads--General (U)
331	Compensating Elements (Fire Control Series)
355	The Automotive Assembly (Automotive Series)

Ammunition and Explosives Series

175	Solid Propellants, Part One
176(C)	Solid Propellants, Part Two (U)
177	Properties of Explosives of Military Interest, Section 1
178(C)	Properties of Explosives of Military Interest, Section 2 (U)
210	Fuzes, General and Mechanical
211(C)	Fuzes, Proximity, Electrical, Part One (U)
212(S)	Fuzes, Proximity, Electrical, Part Two (U)
213(S)	Fuzes, Proximity, Electrical, Part Three (U)
214(S)	Fuzes, Proximity, Electrical, Part Four (U)
215(C)	Fuzes, Proximity, Electrical, Part Five (U)
244	Section 1, Artillery Ammunition--General, with Table of Contents, Glossary and Index for Series
245(C)	Section 2, Design for Terminal Effects (U)
246	Section 3, Design for Control of Flight Characteristics
247(C)	Section 4. Design for Projection (U)
248	Section 5, Inspection Aspects of Artillery Ammunition Design
249(C)	Section 6, Manufacture of Metallic Components of Artillery Ammunition (U)

Ballistic Missile Series

Number	Title
281(S-RD)	Weapon System Effectiveness (U)
282	Propulsion and Propellants
284(C)	Trajectories (U)
286	Structures

Ballistics Series

140	Trajectories] Differential Effects, and Data for Projectiles
160(S)	Elements of Terminal Ballistics, Part One, Introduction, Kill Mechanisms, and Vulnerability (U)
161(S)	Elements of Terminal Ballistics, Part Two, Collection and Analysis of Data Concerning Targets (U)
162(S-RD)	Elements of Terminal Ballistics, Part Three, Application to Missile and Space Targets (U)

Carriages and Mounts Series

340	Carriages and Mounts--General
341	Cradles
342	Recoil Systems
343	Top Carriages
344	Bottom Carriages
345	Equilibrators
346	Elevating Mechanisms
347	Traversing Mechanisms

Materials Handbooks

301	Aluminum and Aluminum Alloys
302	Copper and Copper Alloys
303	Magnesium and Magnesium Alloys
305	Titanium and Titanium Alloys
306	Adhesives
307	Gasket Materials (Nonmetallic)
308	Glass
309	Plastics
310	Rubber and Rubber-Like Materials
311	Corrosion and Corrosion Protection of Metals

Military Pyrotechnics Series

186	Part Two, Safety, Procedures and Glossary
187	Part Three, Properties of Materials Used in Pyrotechnic Compositions

Surface-to-Air Missile Series

291	Part One, System Integration
292	Part Two, Weapon Control
293	Part Three, Computers
294(S)	Part Four, Missile Armament (U)
295(S)	Part Five, Countermeasures (U)
296	Part Six, Structures and Power Sources
297(S)	Part Seven, Sample Problem (U)